

Nov. 24, 1986

Chemical Marketing Reporter

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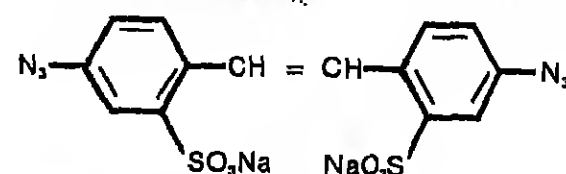
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CMR MARKET INDEX

CHEMICAL MARKETING REPORTER's market index of chemicals and related materials (100=1974 average), based on 97 key commercial chemicals, appears alongside with data for two weeks ago, last month and last year.

Nov. 21, 1986	151.76
Nov. 7, 1986	152.33
Oct. 24, 1986	151.77
Nov. 22, 1985	152.90

Chemical Prices Start on Page 28

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CHEMICAL MARKETING CUES

BENZENE: Spot price firms, contracts could be shortly
FRASCH SULFUR: Producers cut the Tampa, Fla. by \$5
EPOXY RESINS: Price increase appears to be by two producers say
BENZYL ACETATE: Imports rise; prices and fall

Chemical Marketing Reporter

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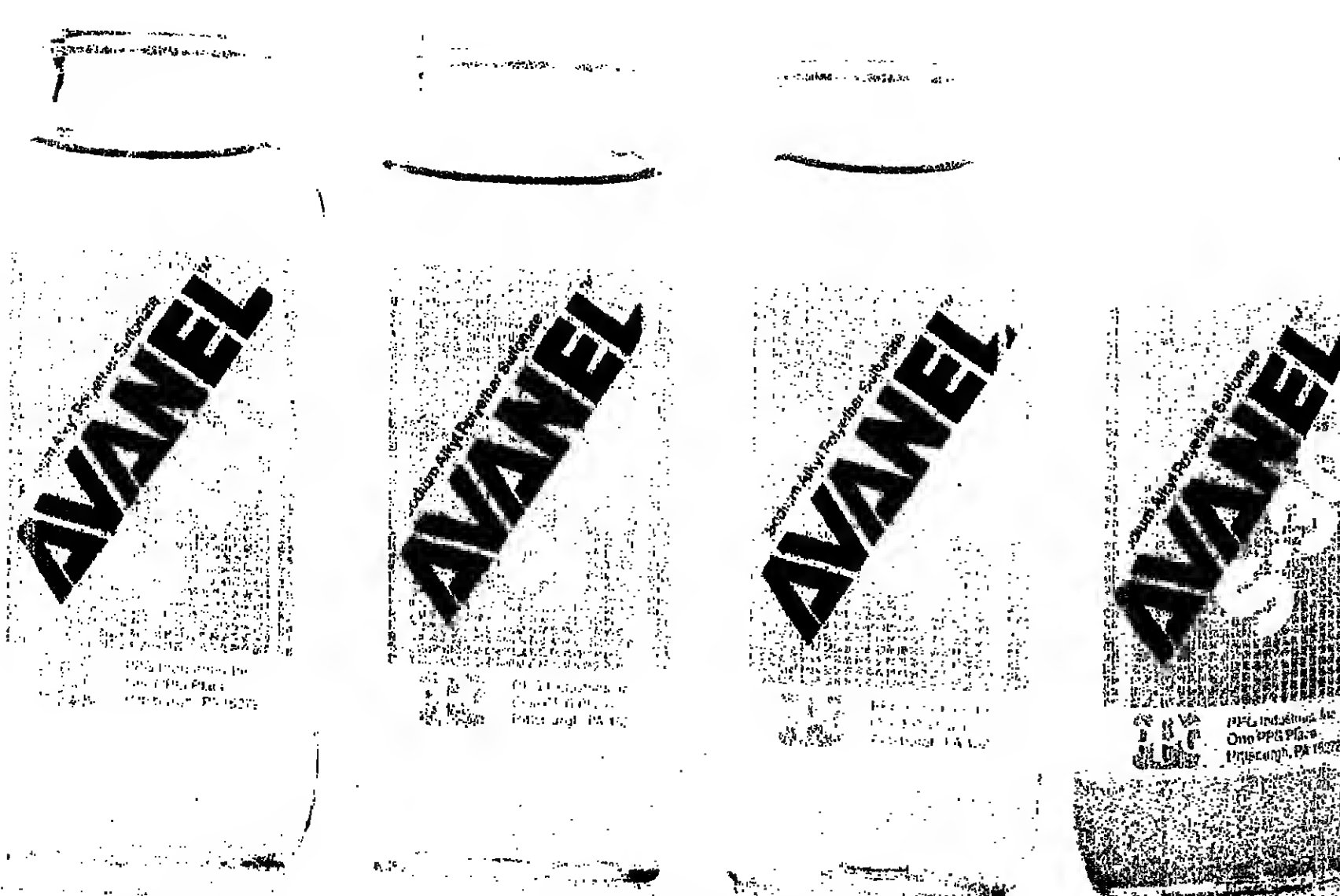
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Methylene Chloride Safety Queried

Although methylene chloride does not pose a sufficient risk to workers to require an emergency temporary standard, available data on the chemical may warrant a reduction in the current workplace exposure limit, the Federal government said last week.

Assistant Secretary of Labor John A. Pendergrass, who heads the department's Occupational Safety & Health Administration, issued an advance notice of proposed rulemaking which seeks public comment on possible changes to the agency's existing standard.

Laboratory studies have shown that methylene chloride, a widely used industrial solvent and fire retardant, can cause cancer among rats and mice.

"Available information provides evidence of its cancer-causing effect on two animal species," Mr. Pendergrass said, "and therefore, the existing standard may be inadequate. Even though the data on the carcinogenic effect on people are still inconclusive, we want to review our existing standard and be prepared, if necessary, to make appropriate changes."

The current OSHA standard, which sets permissible worker exposure at 500 parts of methylene chloride per million parts of air (500 ppm) averaged over eight hours, was linked to the chemical's anesthetic and irritating properties and was not based on more recently documented acute effects, potential carcinogenicity or mutagenicity.

Methylene chloride, also known as dichloromethane and commonly referred to as DCM, is a volatile solvent of low flammability and an aerosol propellant widely used in many consumer products.

Continued on Page 17

METHYLENE CHLORIDE in the workplace. Here it's being used as an auxiliary blowing agent to produce this slabstock foam at a Dow Chemical facility. The foam has been placed on a conveyor for cutting to customer specifications.



Bhopal District Court Lifts Injunction On UCC Dividend

The district court in Bhopal, India, lifted a temporary injunction last Wednesday (Nov. 26) that barred Union Carbide Corporation from paying its regular quarterly dividend of \$0.375 per share, payable on December 1 to stockholders of record on November 7.

Hearings continued last week on other provisions of the interim injunction issued by the court last month in response to a bid by the Indian government to block Carbide from pursuing its recapitalization and asset divestment program.

Among other things, the government is trying to block Carbide's plan to retire some \$2.5 billion in debt accumulated during its fight against GAF Corporation's takeover attempt earlier this year.

Litigants representing the Indian government contend that Carbide is placing the interests of its creditors ahead of the rights of residents of the Bhopal gas leak.

Last week Carbide offered to maintain \$1 billion in unencumbered assets to cover judgments, provided the court lift the injunction.

At the hearings in Bhopal last week, Carbide argued that Indian civil law prohibits restraint on use of property outside India.

Under Indian law, Carbide argued, plaintiffs cannot prevent a defendant's use of his property so long as it is used so in a way that does not defraud creditors. Carbide said the Indian government "knows full well" that the company's recapitalization program is designed to strengthen the company's financial position and not to defraud creditors.

The hearing capped a week during which the Indian government revealed that it would seek at least \$3 billion from the Danbury, Conn.-based firm, an amount way beyond the \$600 million previously sought. Carbide had earlier offered to settle the suit for \$350 million, a figure the government dismissed as inadequate.

Also last week, Carbide charged in a Federal appeals court in New York that the Indian government has been tampering with the company's mail and telephones. The Indian government's lawyers denied the allegations.

At the hearing in the appeals court, Carbide also argued that the Indian government should be subject to the same pre-trial discovery requirements that Carbide agreed to be bound by, saying that it would be unfair to hold the company to a different standard. The company also sought a reaffirmation of a district court's requirement that the Indian government follow due process in the Bhopal litigation.

US District Court Judge John F. Keenan ruled in May that the Bhopal litigation should be heard in India, rather than in the US, but stipulated that certain conditions had to be met, among them, that Carbide abide by US-style discovery rules. It was this condition that Carbide was appealing in the appeals court.

Mobil Polystyrene Plant Slated For A Debottlenecking Project

Mobil Chemical Company is expanding its Joliet, Ill., polystyrene plant by 60 million pounds a year to meet increased customer demand for its high-impact resins, the company said last week.

The debottlenecking project is expected to be completed by the second quarter of 1988, boosting the plant's production capabilities to 540 million pounds, according to Mobil.

The company says its total polystyrene capacity currently stands at 440 million pounds, but industry sources say that figure is actually around 375 million pounds annually.

In addition to Joliet, Mobil produces polystyrene at plants in Santa Ana, Calif., and Holyoke, Mass.

"Mobil has substantially accelerated its R&D programs for high-impact polystyrene resins," Mobil commented last week. "These resins are now paying off as these new premium resins replace more expensive resins in many applications."

Announcement of the Mobil debottlenecking project comes at a time when the polystyrene industry is operating at or near capacity. "It has been an excellent year for polystyrene," observes a mid-sized producer of the material. "I think everyone is running tight."

Strong demand for polystyrene and high operating rates have helped move pricing back up toward acceptable levels. Most firms have announced another round of price increases, to take effect by the first of the year.

Acceptance of the latest 3-cent increase would bring industry profit margins close to acceptable levels, says one producer.

Producers who have formally announced January 1 price increases for polystyrene include Amoco Chemicals Company, Dow Chemical Company, Mobil and Polysar Inc.

Fina Oil & Chemical Company (Corden) says its November 1 price hike, which failed to gain immediate industry support, will be fully implemented by today (December 1). The company says the increase is needed now to offset higher raw material costs.

Huntman Chemical Corporation says it is sticking with its December 1 price increase, but Dow deferred its December increase until January 1 to give customers a chance to "digest" it, the company says. Dow's ignition-resistant grade will go up 2 cents per pound on December 1, as originally scheduled.

As of last week, Chevron Chemical Com-

Chemical Marketing Reporter

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DECEMBER 1, 1986

Phenol Discord Hurts Two Price Initiatives

Twice this quarter, phenol producers have failed in efforts to raise pricing despite rising feedstock costs.

Last quarter, the inability of a July 1 price initiative to stick was attributed in large part to a 10-cent-per-gallon drop during that month in benzene contract pricing from 80 cents per gallon to 70 cents per gallon.

Since that time, however, the benzene market has firmed to a current contract level of 92 cents per gallon, and cumene pricing has for the most part, followed.

Phenol producers say their lack of success in raising prices October 1 and November 1 can be traced to competitive pressures in the industry that are related most particularly to buyers in the phenolic resins sector, who account for nearly half of phenol demand.

"Phenolic resin people have been unwilling or unable to get their prices up," says a phenol producer, and as a result these resin producers are said to have pressured phenol producers into not raising their prices. "Phenolic resin guys are playing one (phenol producer) against the other," says an industry observer.

In an industry often described as, highly competitive, phenol producers say there was less than total support for this quarter's two price initiatives. Unless the industry is running full-out, "all it takes is one guy to hold off" in order to bring down the effort, a producer comments.

Producers say that demand has been steady at a reasonably strong level, most especially from the bisphenol-A sector, which accounts for about 20 percent of the phenol produced. The month of December, however, is said to be historically a fairly slow month for phenol demand.

This seasonal pattern has made unlikely any movement in phenol pricing for December, though benzene costs have risen since the failure of the November 1 price initiative. However, when cumene contracts are settled early this month, benzene's 5-cent-per-gallon rise will be a consideration.

Cumene pricing was at 14 cents per gallon in September, followed benzene up to 14 1/2 cents per gallon in October, and, for most

suppliers, rose to 14 3/4 cents per gallon in November.

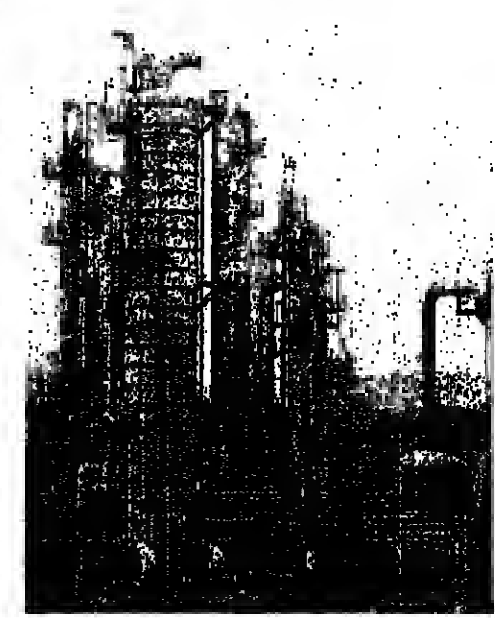
It is reported that some suppliers held pricing at 14 1/4 cents per gallon in November in response to pressure from the phenol industry. "It's a vicious circle" on pricing matters, says a source, as phenolic resin makers' woes reverberate back through the phenol industry to cumene producers.

It is expected that cumene will top 15 cents per gallon this month, and that continued upward movement in benzene, which already has risen on the spot market above the new December 1 contract level, could result in additional feedstock cost pressure January 1.

Phenol producers say that the August 1 to January 1 rise in feedstock costs could well amount to 3 to 4 cents per gallon on phenol were the costs passed through.

"It would have been a lot easier if we had gotten our price up when it was timely" in November.

Continued on Page 14



PHENOL'S FAILURE: Producers can't get prices up, despite rising feedstock costs.

Chlorofluorocarbons Phaseout Is Urged by US Legislators

A bipartisan group of lawmakers are calling for a phase-out of fully halogenated chlorofluorocarbons, man-made chemicals that some scientists have linked to depletion of the earth's protective ozone layer. In a letter to Secretary of State George Schultz, eight senators say they would "prefer that the next step take the form of a strong international control protocol calling for a phase-out of fully halogenated CFCs." "If during the upcoming negotiations, however, it appears that no agreement will be reached or that the agreement will fall short of requiring the phase out, we are committed to introducing legislation in Congress that would require the gradual elimination of such CFCs."

The letter was signed by Sens. Robert T. Stafford (R-Vt.), George Mitchell (D-Maine), John Chafee (R-R.I.), Gordon Humphrey (R-N.H.), Albert Gore (D-Tenn.), Max Baucus (D-Mont.) and Patrick Leahy (D-Vt.).

"The senators also say that in the event that a strong international accord is not produced, and in order to 'protect our environment and our domestic industry, we would include a provision to prohibit importation of goods that fail to meet the same standards and requirements that are applicable to products produced in this country.'"

A member of Congress may be included in the US delegation to the next meeting of the United Nations Environment Programme which is scheduled to begin in December 1.

In the last session of Congress, Rep. Bill Richardson (D-N.M.) introduced a bill requiring the phase-out in five years of substances "anticipated to cause or contribute to stratospheric ozone depletion, climatic warming, or any other atmospheric or climatic modification."

Drug Papers Seen As Boon to US

US pharmaceutical industry scientists contributed more than 19,000 papers and 6000 meeting abstracts to publicly available scientific knowledge during the ten-year period from 1973 to 1982, according to a recent study prepared for Pharmaceutical Manufacturers Association.

The authors of "The Quest for Knowledge: Contribution of US Pharmaceutical Industry Scientists" searched more than 2,300 biomedical, chemical, biological, and other scientific journals indexed in the "Science Citation Index" (SCI) for research papers authored or co-authored by U.S. pharmaceutical industry scientists.

The monetary value of the industry's contribution is also substantial, according to the report. The cost of a typical biomedical paper supported by NIH is approximately \$100,000 in 1982 dollars. Based on this estimate, the value of the contribution of the US pharmaceutical industry to public knowledge exceeds \$150 million per year.

Air Separation Unit Sited in California

UGI Corp., says that its AmeriGas subsidiary has awarded an \$11 million contract to Ansutech Inc. for construction of a 250-ton-per-day air separation plant in northern California.

Ansutech will build the facility for AmeriGas Industrial Gases in the Laguna Business Park near Elk Grove in Sacramento County which is zoned for semiconductor industry development. The plant is scheduled to be in operation early in the second quarter of 1987.

The facility will produce liquid nitrogen, oxygen and argon which are used in petrochemical, steel, welding, medical and laboratory applications. In addition, it will produce ultra-high-purity nitrogen to serve the electronics industry in northern California and provide cylinder gases to AmeriGas for distribution through its chain of Welder's World retail stores in the state.

Under the contract, Valley Forge-based Ansutech is responsible for turnkey construction of the plant, including engineering, design, installation and start-up. Ansutech is a joint venture of AmeriGas and Nippon Sanso K.K.

Air Products Sells Stearns Catalytic

United Engineers & Constructors, a subsidiary of Raytheon Company, says that it has completed the purchase of Stearns Catalytic from Air Products & Chemicals.

The final purchase agreement was signed by United Engineers and Air Products last week, and the transfer is effective immediately.

United Engineers had announced on September 15, 1986, that it had signed a letter of intent with Air Products for the acquisition of Stearns Catalytic.

The final purchase includes the domestic operations of Stearns Catalytic, as well as the London engineering office. It excludes real estate holdings and Stearns' Canadian operations, United Engineers says.

The business volume of the combined firm will place United Engineers & Constructors among the top five engineering and construction firms in the nation. The workforce will total more than 4,500 employees.

United will operate the combined company under a new holding company, United Engineers & Constructors International. Gunnar E. Sarsten will be president and CEO of both the holding company and the primary engineering services unit, United Engineers & Constructors Inc.

El Paso Completes Revamp of PP Line

El Paso Products Company has completed renovation of one of its polypropylene lines which was partially destroyed by fire June 20. The renovated line at the company's Odessa, Tex. plant is producing high-purity grades of isotactic polypropylene, according to El Paso.

Other PP lines at the site continued in operation during the renovation. Added to PP production at Bayport, Tex., El Paso has total capacity for 350 million pounds of polypropylene annually.

Also on stream at Odessa is an amorphous polypropylene plant with annual capacity for 50 million pounds. The amorphous PAO product line is being targeted for a wide range of applications from roofing, wires and cable and lamination, to adhesive compounds and carpet backing.

Eastman, Microbio In Carotene Pact

Eastman Kodak Company and Microbio Resources, Inc., San Diego, Calif., have concluded an agreement giving Kodak's bioproducts division world marketing rights to Microbio's "Provestene" beta-carotene product.

The agreement also provides for Kodak to support continuing research by Microbio in the field of aquaculture. Microbio has been commercially marketing the beta-carotene product, which is derived from the algae, *dunaliella salina*, since early 1985. The product is sold as a food coloring and as a dietary supplement.

Baupost Raises Stake

Baupost Group Inc., an investment partnership based in Cambridge, Mass., has raised its stake in Mess Petroleum Company to 8.7 percent, or more than 5.9 million shares, from 7.1 percent. Two members of the Baupost organization are professors at the Harvard Graduate School of Business Administration. Mess Petroleum's chairman is T. Boone Pickens, Jr., one of the most active of the corporate raiders.



William J. Murray, who has been appointed vice president of American Gypsum Company's Polymer Products Division. He was most recently general manager of the engineered materials department.

Du Pont Dismantling Corpus Christi Units

E.I. du Pont de Nemours & Co. will dismantle its chlorine-based raw material production facilities at the company's Corpus Christi, Tex. plant. Dismantling will begin immediately and will result in a charge of 31 cents per share in the fourth quarter, Du Pont says.

The Corpus Christi plant will continue to produce the company's "Freon" fluorocarbons. Du Pont is "studying the options available" with respect to an idled cyclohexane production unit at the site.

Du Pont said in July that it would purchase all chlorine-based raw materials used in production of fluorocarbons and would idle certain facilities at Corpus Christi pending a decision on their disposition (CMR, 7/7/86, pg. 3). The raw materials include chlorine, carbon tetrachloride, chloroform and perchloroethylene.

Du Pont began to purchase chlorine-based raw materials used in production of fluorocarbons earlier this year after worldwide supply forecasts showed it is more advantageous for the company to buy the chemicals than produce them.

Ontario's Chemicals Operation to Close

Ontario Paper Company will close down its sulfite pulp plant at Thorold, Ontario, Canada, late in 1987 and as a result will also close down the related chemicals business unless a buyer can be found for it.

The sulfite plant currently supplies spent sulfite liquor for a chemical byproduct operation which produces vanillin, salt cake and industrial alcohol.

Earlier this year, Ontario Paper started construction of a new delinking plant to produce pulp from recycled newspapers and coated papers at the Thorold mill. The delinked pulp will replace sulfite pulp in the production of newsprint.

Sun and Chromalloy Agree on Merger

Sun Chemical Corporation and Chromalloy American Corporation said their boards of directors have approved an agreement on merger and an increased exchange ratio. Under the merger agreement, each outstanding share of Chromalloy common stock not owned by Sun would be exchanged for 0.34 of a share of Sun Class A common stock following Sun Chemical's proposed recapitalization.

Each outstanding share of Chromalloy convertible preferred stock would be exchanged for one share of a new Sun convertible preferred having identical rights and preferences and convertible into shares of Sun Class A common.

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Du Pont Gets Rights

E.I. du Pont de Nemours & Co. has obtained rights to an advanced system for monitoring anticoagulant therapy from Biotrack, Inc., Sunnyvale, Calif. Terms were not disclosed.

Biotrack's "Protime" test system is reported as the first immediate, accurate test for critical dosage management of the anticoagulant, warfarin. Du Pont Pharmaceuticals says claim to having the largest-selling warfarin product in its "Coumadin," used for managing blood clots in patients.

The Biotrack system consists of a handheld instrument that uses a single drop of blood in a one-step process that can be performed in minutes by a physician or nurse. This allows the physician to make immediate dosage adjustments. Current warfarin monitoring — called prothrombin time testing — usually requires a laboratory analysis.

In addition to marketing and distribution rights for the product in North America, the agreement also gives Du Pont rights to a software system, called "Warfcel," for dosage management.

Approved by Food & Drug Administration in June, the system is being test marketed and will be sold nationally by Du Pont during the first quarter of 1987.

Founded in 1984, Biotrack is a privately-held company that develops portable microelectronic/chemicals consumable products for medical personnel and consumers to diagnose, treat and monitor disease.

Du Pont supplies a wide variety of research, diagnostic and therapeutic healthcare products, with annual sales of more than \$1 billion worldwide.

Petroleum Industry Sees Heavy Burden in Future

Recent or pending federal government legislative and regulatory actions could add an amount to the depressed petroleum industry's annual costs that is greater than the combined 1985 net income of the 400 largest domestic oil and gas companies, according to a study by the American Petroleum Institute.

The API study, "Recent or Potential New Costs Imposed by Government On The Petroleum Industry," said these new costs when combined could be nearly \$18 billion annually when averaged over the first five years of each program.

The study said this amount exceeds the \$15 billion earned in 1985 by the 400 leading US energy companies that accounted for nearly 95 percent of that year's U.S. crude oil production.

The study said these costs will impact at the time when the petroleum industry has been severely hit by falling crude prices. "Many influential people, taking one policy initiative at a time, recognize the cost of that initiative to the petroleum industry but consider only that cost," says API President Charles J. Dibona.

"They conclude that it is a cost that can be tolerated, even if benefits are uncertain and even if all companies are not a logical funding source. They do not perceive that the cumulative costs of many such policies can, in the end, be intolerable for both the industry and eventually the nation."

Federal actions completed within the past 18 months — lead phasedown (\$500 million per year), tax reform (\$2 billion per year) and Superfund reauthorization (\$700 million per year) — will increase costs to the petroleum industry by some \$3.2 billion annually, the report said.

Actions under consideration could impose additional annual costs of some \$14.5 billion, depending on how these requirements are implemented, the study said.

Proposed Federal legislation and regulations and their possible average costs are: Clean Water Act regulations — \$100 million; banning landfarming of refinery wastes — \$200 million; underground tank regulation — \$200 million; stage II vapor recovery requirements for service stations — \$200 million to \$650 million; gasoline volatility reductions — \$300 million; changes in tank truck requirements — \$500 million; acid rain controls — up to \$7.5 billion; and designation of exploration and production wastes as hazardous substances — \$8 billion.

The study concludes that the ultimate result of the added cost will be reduced output in all sectors of the petroleum industry, an increase in the nation's already growing reliance on foreign oil and products, and increased costs to energy consumers.

The study identifies each of the actions that could contribute to the cost total and discusses the dollar estimate for each.

Two examples he cited are the Clean Water Act amendments and the reauthorization of the Federal Insecticide, Fungicide & Rodenticide Act. The clean water bill was unanimously passed by Congress but it was vetoed by the President. The pesticide statute was approved by both the House and Senate but died in the final hours of the session when the two chambers failed to agree on a compromise version.

Mr. Thomas predicted that both issues will receive prompt attention from Congress next year and will be sent to the White House for President Reagan's signature.

"I don't expect major revisions in the areas dealing with toxics, but if anything, those provisions will be strengthened," said the EPA chief.

Mr. Thomas said the Clean Air Act will be a major subject of debate in Congress over the next two years and he predicted that lawmakers would move to place new restrictions on chemical plant emissions and approve controls on acid rain.

He also said the issue of groundwater contamination by toxic substances will probably be addressed by comprehensive legislation for the first time.

Aspartame Wins OK; A Critic's Bid Fails

Food & Drug Administration last week rejected a petition seeking to ban aspartame as an "imminent hazard to the public health," dismissing a consumer group's concerns linking the sweetener to epileptic seizures.

Consumer Nutrition Institute filed the petition in July based on reports from a team of Massachusetts Institute of Technology researchers that more than 80 people suffered seizures after eating or drinking products containing aspartame, which is sold by Nutrasweet Company (formerly G.D. Searle) under the tradename "NutraSweet."

The consumer petition argued that "the existence of these 80 cases meets the FDA definition of an imminent hazard to the public health requiring the FDA commissioner to expeditiously remove a product from the market."

In October, the group amended its complaint, citing more than 80 persons who reported eye damage after consuming products flavored with the sweetener.

But FDA responded that "the evidence submitted is not of the type that establishes a link between aspartame consumption and possible harm to the public health."

James Turner, a CNI attorney who has waged a 15-year battle challenging the safety of aspartame, said the decision was "not unexpected" and will provide his group with "the basis for further action in court."

FDA associate commissioner John Taylor said in a letter to Mr. Turner, "we conclude that the evidence does not support any finding that any public harm is presented by the consumption of aspartame."

Dr. Gerald Gauli, vice president for nutrition and medical affairs for Nutrasweet, said, "We have no new scientific evidence

that in any way suggests that our product is anything but completely safe."

He said aspartame "has been tested extensively in human beings, without any occurrence of seizures under controlled conditions" and that recently completed

Continued on Page 15



James D. Miller, who has been named director of international operations at Occidental Chemical Company. Mr. Miller will provide direction on operational matters to all the company's international businesses and will be responsible for certain Latin American operations.

Textile Imports Targeted

Major trade legislation aimed at putting a cap on textile imports will be introduced shortly after Congress convenes in January, says John N. Gregg, president of Avtex and chairman of the Fiber, Fabric and Apparel Coalition for Trade.

"Since the election, we can see quite a different attitude" in Congress toward trade matters, Mr. Gregg notes. He says the Democratic takeover of the Senate significantly increases the chances of enacting a textile bill.

Mr. Gregg warns there will be a tremendous increase in textile and apparel imports from China next year, and says the solution must come through legislation rather than bilateral agreement.

Messin, a 13-member congressional delegation returning from Hong Kong says it warned that country that even though it has adopted a free-trade policy, Hong Kong may not be exempted from future anti-import legislation that is sure to come up in Congress next year.

The group urged Hong Kong officials to work to lower the protectionist barriers and encourage other Asian nations to do the same.

Rep. Dan Rostenkowski, D-Ill., chairman of the House Ways and Means Committee, said, "We stress to your officials the need to help in breaking open new markets." If this is not done, he said the US will increase its barriers.

Bhopal Disaster Cited By Worldwide Labor Groups

The AFL-CIO joined trade unions around the world last week in calling for the adoption of 14 steps to prevent such chemical disasters as occurred in Bhopal, India.

The proposal calls for specific action by corporations, by Congress and by the International Labor Organization and pledges trade union bodies around the world to share information and continue research on chemical dangers.

The 14 points were adopted by the International Confederation of Free Trade Unions, of which the AFL-CIO is a member.

The principles are an outgrowth of an international study of the December 1984 disaster which killed 2,600 people in Bhopal. Margaret Semmler, AFL-CIO health and safety specialist, was a member of the 12-person fact-finding committee which went to India and wrote the Trade Union Report on Bhopal in July 1985.

"Americans should not regard Bhopal as unrelated to our workplaces," says Ms. Semmler.

"The fact is that none of the conditions which led to the disaster would have been violations of specific standards or regulations of OSHA or EPA."

Ms. Semmler says that the nations of the world obviously vary in how close they are to complying with some of the 14 principles. For example, she says, "As a result of Bhopal and US trade union efforts, a new Federal law guaranteeing the public the right to know about chemical hazards in their communities."

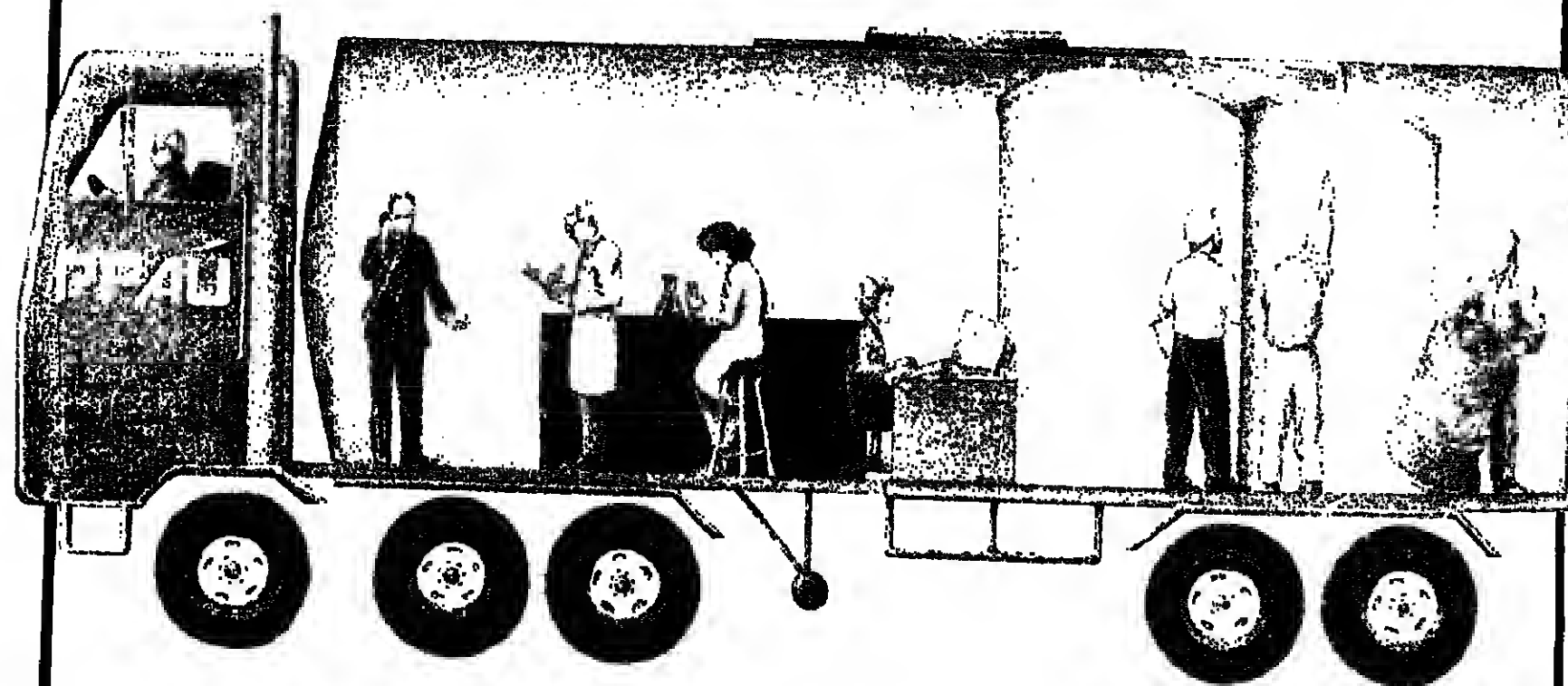
On the other hand, she says the US should pay close attention to other ICFTU recommendations, like plant design and insurance compensation.

The unions' report declares that adoption of the 14 points might have helped prevent other chemical disasters, such as the 1974 explosion at a Flixborough, England plastics plant, the 1978 contamination of Seveso, Italy with dioxin, and the recent Basel, Switzerland warehouse fire which spilled

Continued on Page 16

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C-I-L Revamps Hg Chemicals, Trims Its Staff

C-I-L Inc.'s agricultural unit will delay the startup of one of its ammonia plants from planned maintenance into the first quarter of 1987, and will reduce its staffing.

"The economics of the agricultural industry in Canada and the US have been undergoing fundamental changes," says agricultural general manager Doug Coombs. "C-I-L must continue to provide market-oriented products and services on a profitable basis," he adds.

Mr. Coombs emphasizes that the company remains committed to ammonia and nitrogen fertilizers.

A key factor, he says, is the expectation that the cost of natural gas delivered to its Lambton plant will be reduced to levels being paid by US competitors.

Because of low ammonia prices, the company is not able to take on additional ammonia business beyond current levels, but it says a number of market and natural gas initiatives are under way to improve competitive ness.

"The objective of delaying the ammonia plant startup and the reduction in staff is to improve our competitiveness in the long term," Mr. Coombs explains.

"This is part of our continuing effort to better position ourselves for the future, not just a reaction to the losses we have incurred due to low prices for our manufactured products and the uncompetitive cost of natural gas at Lambton works."

Brazil Mulling Petrochemicals For the 1990's

Copene (Petroquimica do Nordeste SA) is reported seeking approval for a plant to double its basic petrochemicals capacity at Csmacsri, Brazil, at a cost of over \$800 million. Current ethylene capacity at the site is rated at about 800,000 tons annually.

Gas oil feedstock for the project, which would include proportionate increases in propylene, butadiene and benzene capacities, would come from Petrobras, the state-owned oil company.

The development follows an earlier announcement that Unipar (Uniao de Industrias Petroquimicas SA) and its Petroquimica Uniao affiliate want government approval for a new \$550 million petrochemical complex to be based on natural gas liquids from gas fields discovered off the coast of the state of Rio de Janeiro.

That complex, also projected for the early 1990s, is also projected for the early

Continued on Page 15

Phosphoric Acid Bid Launched by Monsanto And FMC Corporation

Monsanto Chemical Company and FMC Corporation have filed antidumping and countervailing duty petitions with the US government concerning imports of industrial phosphoric acid from Belgium and Israel. All other US producers of industrial phosphoric acid are said to have indicated their support for the petitions.

The petitions, filed with the US Department of Commerce and the US International Trade Commission allege that industrial phosphoric acid imported from the two countries is being sold in the US at dumped and subsidized prices and that, as a result, the domestic industry producing these goods is being materially injured or threatened with material injury.

A Monsanto spokesman says the petition was filed November 5 and appeared in the *Federal Register* last week. Under current regulations, the government has a statutory deadline of 45 days until December 22 to complete its preliminary investigation.

The foreign companies involved in the suit are Societe Chimique Prayon-Rupel SA of Belgium and Haifa Chemical, Negev Phosphates and Rotem Fertilizers, all of Israel.

Last week, a representative of Prayon-Rupel said of the suit, "We believe their action is totally without foundation or merit."

Michael E. Miller, vice president of Monsanto, said that Monsanto's share of the mar-

ket has declined, prices for the product have fallen, and the company has been forced to close a production unit in Kearney, N.J.

"We believe the action we have taken is in the best interest of our customers as well as the domestic phosphorus industry," said William W. Wheeler, FMC Phosphorus Chemicals Division manager. He added that if the current practices of the foreign producers continue to go unchallenged, the viability of the domestic phosphorus chemicals industry could be disrupted.

By one account, phosphoric acid imports will amount to 89 million pounds this year, about 14 percent of the US market. Belgium and Israel account for 88 percent of the imported share.

In 1985, phosphoric acid imports were 50 million pounds, about 10 percent of the market that year.

One spokesman said that US producers are being forced to sell at prices that are 15 to 20 percent off of list levels. Technical grade material at 75 percent strength currently lists at 29 cents per pound.

"If we are successful, as we certainly expect to be," said Mr. Wheeler, "additional duties will be placed on the Belgian and Israeli imports to offset the unfair advantage that dumping and subsidization provide them."

The Commerce Department will determine whether phosphoric acid imports from

Continued on Page 32

Diamond Crystal to Buy

Diamond Crystal Salt Company has signed an agreement in principle to purchase all of the capital stock of Sol-Aire Salt and Chemical Company from Amax Inc.

The planned acquisition is the first step in a \$12 million project to build a major solar salt facility on Sol-Aire properties at the Great Salt Lake, Utah, says Roy C. Satchell, president and CEO of Diamond Crystal.

The purchase price includes about \$800,000 in cash, equivalent to the net book value of Sol-Aire on the closing date, plus future royalties to be paid based on salt shipments.

The Diamond Crystal project will include recovery of a portion of the brine concentrating ponds which were lost when an Amax dike failed during a June 1986 storm. Diamond Crystal also plans to

build new salt crystallizing ponds and a processing plant on adjacent Sol-Aire property near Timpie, Utah. According to Mr. Satchell, the operation will employ about 100 people. Construction is expected to begin in December.

The project will provide Diamond Crystal with a domestic source of solar salt for part of its predominantly Eastern US market while allowing the company to expand to the West, Mr. Satchell indicated.

"Solar salt is increasingly preferred over rock salt for certain applications such as water conditioning. The project will allow us to better serve the changing needs of our customers," Mr. Satchell stated.

Diamond Crystal has not produced rock salt since it lost its Louisiana mine in an oil well drilling accident in 1980.

Hazardous Waste Decree Signed By Fifty-One Firms, Including Hunt

Department of Justice has filed a proposed consent decree requiring 51 defendants, including Hunt Chemical, to pay for the cleanup of a superfund hazardous waste site in Rhode Island.

The government estimates that the cleanup of the Western Sand and Gravel, Inc. site will cost at least \$5.8 million. The site is on Environmental Protection Agency's priority cleanup list under the superfund program.

"The decree requires that the defendants compensate the government for past cleanup costs and contains provisions for site closure," says F. Henry Habicht, assistant attorney general.

The defendants have agreed to the decree's terms. The site is located in Burrillville and North Smithfield, R.I.

The decree concludes a civil complaint filed on October 2 alleging that hazardous wastes had contaminated soil and both surface and groundwater at the 20-acre site. The complaint asked that the defendants be required to remedy environmental law violations and to pay cleanup costs.

The defendants, besides Western Sand and

Gravel and its president, James V. Card, Jr., are 44 companies that arranged for wastes to be taken to the site and five companies that transported wastes.

The consent decree requires the defendants to create a \$3,622,429 escrow account to be used to pay past and future costs related to the site cleanup.

The Federal government will receive \$2,899,603.90 from the fund. More than half is for past costs and projected costs of oversight over closure of the site and contamination studies. About \$1.1 million will finance EPA's construction of a permanent alternate drinking water supply system for consumers near the site whose wells have been contaminated.

There are some 56 parcels of land and 39 drinking water wells within a half mile of the site. The government found underground contamination requiring remedial measures.

The decree contains special requirements for one of the defendants, Olin Hunt Specialty Products, Inc., formerly the Philip A. Hunt Chemical Corporation of West Paterson, New Jersey. The government said Hunt

Continued on Page 15

Carbide Gets FTC to Shift It '77 Order

Federal Trade Commission last week modified a 1977 consent order with Union Carbide Corporation by removing references to welding products and gas welding apparatus, but rejected the company's request to reopen and modify two other provisions involving long-term industrial gas contracts.

The commission voted 4-1 to modify the order, with Chairman Daniel Oliver dissenting.

"FTC denied Union Carbide's request that it be allowed to enter into long-term contracts that require industrial gas distributors to buy gases from the company."

"There is substantial reason to believe that Carbide is violating" that provision of the order, the commission said. "The commission believes, as a matter of policy, that generally it should refrain from reopening an order provision when there exists reason to believe that a respondent is in violation of the very provision it seeks to modify."

In addition, FTC declined to reopen and modify a requirement that Union Carbide get prior FTC approval before making certain acquisitions and instead allow the company to give the agency 30 days prior notice.

The commission said Union Carbide did not show that modification of the prior approval requirement was necessary because of changes in the law or facts.

In a dissenting statement, Chairman Oliver said he agreed with the commission's decision to remove the order's references to welding because Union Carbide is no longer involved in the welding business.

But he said he disagreed with the decision to continue prohibiting the company from entering into long-term contracts with gas distributors.

Although he "strongly advocates vindication of the commission's orders," Mr. Oliver maintained "the order's prohibitions on long-term contracts places Union Carbide at a competitive disadvantage" and "forcing compliance with errant commission orders places the commission in the undesirable position of harming rather than helping consumers."

Animal Feed Contaminated With Heptachlor

Federal officials have indicted four former Arkansas gasohol plant operators for selling feed contaminated with the banned pesticide heptachlor to dairy farmers in Arkansas, Missouri and Oklahoma.

The government may have to pay up to \$10 million in indemnities to dairy farmers because forty-three cow herds remain under quarantine. Officials say the carcinogenic pesticide continues to be found in their milk.

Charges in the 52-count indictment include racketeering, mail and wire fraud and violation of Environmental Protection Agency and Food and Drug Administration regulations.

Robert Beuley, inspector general of the Agriculture Department, said the man operated a gasohol plant at Valley Feeds in Van Buren, Ark., and apparently used heptachlor-treated seed grains to distill alcohol for fuel use. The men were charged with selling a contaminated byproduct as animal feed.

Last March, FDA and state health agencies confirmed the presence of heptachlor in milk from cows in Arkansas, Missouri and Oklahoma. Initially, 137 herds were quarantined. Experts believe it may take two years for some of the cows to become free of contamination.

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3. Published misleading statistics which ignore the realities of gum production in the world's arid zones.
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5. Blamed the roller-coaster rides of supply and demand and high prices on Mother Nature instead of using modern science and agribusiness techniques to improve natural conditions and product surety and quality.
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6. Built and continuously developed the largest existing gum processing plant in the world.
7. Developed more than 500 different application formulas based on gum arabic, all pre-tested in a fully equipped food processing pilot plant.
8. Founded, organized and sponsored the first university program for gum biochemistry and gum science (ICOL) offering Ph.D.s in gum chemistry.
9. Created a foundation, AIDGUM, for developing gum production and training gum producers.
10. Granted scholarships to more than 20 students or engineers from producing countries to be trained at ICOL and in various labs in biogeography, plant genetics, silviculture, biological and botanical science.
11. Sponsored research in 5 European universities for gum biochemistry, gum biology, rheology, botanics, metabolism, etc.

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News Capsule

AGA, Nippon Sanso

AGA of Sweden and Nippon Sanso of Japan are planning a technology exchange agreement whereby AGA will use know-how equipment and Nippon Sanso would use AGA techniques for pulp bleaching.

Eastman Expands

Eastman Chemical Division of Eastman Kodak Company plans to expand production of distilled monoglycerides at its distillation products industries facility in Rochester, N.Y. Modernization of the existing monoglycerides facility, scheduled to be on stream by the fourth quarter of 1987, will increase distillation capacity by 30 percent, the company says.

FMC May Sue Boesky

Contrary to media reports, FMC said last week that it had not ruled out legal action against embattled arbitrator Ivan Boesky in connection with the recent Securities & Exchange Committee complaint against Mr. Boesky. The company has formed a special committee to determine any action it will take as a result of the insider trading case.

Thin Film Addition

Dixon Industries Corporation, Bristol, R.I. a designer and manufacturer of high-performance and engineered plastic materials and components, says it is expanding its film and sheet production capabilities for the manufacture of thin film down to the 1/4 mil range. The thin film production capability is expected to be operational by February 1987.

Aquifer Repairs

Cambridge Analytical Associates, Inc. has expanded Bioremediation Systems Division with the opening of an office specializing in aquifer restoration. The office, based in Princeton, N.J., will be staffed by Dr. Richard A. Brown, Dr. Robert D. Norris and Joan F. Ridler, all formerly of FMC's Aquifer Remediation Systems (ARS). Dr. Brown will assume responsibility as director of business development. Dr. Norris will be the marketing manager.

Superabsorbent Polymer

Chemical Corporation, a unit of American Colloid Company, Skokie, Ill., says it has secured financing for the construction of a 20-million-pound-per-year superabsorbent polymer plant in Aberdeen, Miss. The facility is due on line in mid-1987. American Colloid already operates an 8-million-pound-per-year superabsorbent polymer facility in Lovell, Wyo.

Drug Store Boost

Retail drug store sales increased 9 percent in 1985, reaching \$47 billion, according to the 1986 Nielsen Review of Drug Stores Trends. For the first half of 1986 the growth rate slowed slightly to 7 percent as price increases remain moderate. Chain drug outlets — those with four or more stores under the same ownership — and independent-operated drug stores have been growing at the same 7 percent rate thus far in 1986.

PMA Biotechnology

Pharmaceutical Manufacturers Association president Gerald J. Mossinghoff has appointed Dr. William Szekybalo director of biotechnology programs in PMA's division of science and technology. Prior to joining PMA, Dr. Szekybalo was manager of the chemical operations planning department at Hoffmann-La Roche. As director of biotechnology programs, Dr. Szekybalo will manage PMA's biotechnology advisory committee, comprised of sector strategic biotechnology planners from PMA firms.



Robert J. DeGanga, who has been named vice-president of sales at the Industrial Materials Operating Division of Owens-Corning Fiberglass Corporation.

American Brands Seeks Acquisition Of Chesebrough

American Brands, Inc. said that the company had entered into a definitive credit agreement with a group of banks to provide financing of \$3 billion for the company's proposed acquisition of Chesebrough-Pond's, Inc. for \$66 per share.

Chesebrough-Pond's stated that it had received the unsolicited acquisition proposal from American Brands and that they had retained legal and financial advisors to review the proposal as well as other alternatives designed to maximize shareholder value. Recently, large-scale share buybacks have been the most widely used defenses against merger.

Edward Whittemore, chairman and chief executive officer of American Brands, said the company is hopeful that Chesebrough-Pond's directors and management will favorably consider the proposal. "We are prepared to enter into immediate negotiations and hope to reach an agreement on friendly terms promptly," Mr. Whittemore said.

Revlon Group Drops Attempt To Buy Gillette

The Revlon organization and its allies threw in the towel in their attempt to acquire the world's largest toiletry and razor blade company last week — Gillette Company — and settled for a smaller acquisition — the Max Factor prestige cosmetics business.

Revlon Group, Inc. and MacAndrews & Forbes Company, Inc. said that their affiliate, Orange Acquisition, Inc., had sold the 9,226,300 Gillette shares they owned at a price of \$59.60 per share. At the same time, the consortium terminated their offer to purchase all of Gillette's shares.

Gillette and its investment banker had told Revlon in no uncertain terms that they were pursuing alternative transactions that would effectively deprive Revlon and its friends of an opportunity to gain control of the Boston, Mass.-based company.

Drexel Burnham Lambert, Inc., whose financing of the proposed takeover had encountered some skepticism because of fallout from the Ivan Boesky affair and the effect of that on high-yield, high-risk financ-

Continued on Page 35

Urethane In Alcohol: A New Health Threat?

A consumer group asked the Federal government for a recall last week of nearly 50 alcoholic beverages containing high levels of urethane, a naturally-occurring chemical that is a suspected carcinogen in animals.

"People who drink even moderate amounts of these beverages are at risk of developing serious health problems," says Bruce Silverglade, legal affairs director for the Center for Science in the Public Interest.

"They contain up to 5,000 times the amount of urethane considered safe," he says.

CSP's petition urged Food & Drug Administration to set standards similar to those the Canadian government established in 1985. On the basis of laboratory tests, Canada limited the quantity of urethane permitted in distilled spirits and wines sold in the country.

CSP also accused FDA and the alcoholic beverage industry of attempting to hide the problem of urethane-contaminated beverages, a charge denied by the government and the industry.

"We do not think this is an absolute emergency," says FDA Commissioner Dr. Frank Young. "Urethane has been there as long as spirits have been fermented and distilled. What we need to do is establish responsible

standards and get the appropriate forces in place to make sure those levels aren't exceeded."

Dr. Young adds, "The question is when do you push the panic button. We think we're nowhere near that point."

John Norris, FDA deputy director, says the agency has been working with the industry for the past month to eliminate the problem. "If we cannot eliminate the urethane from all beverages or reduce it to insignificant amounts, then we will consider removing them from the market," he says.

FDA found urethane levels in excess of the Canadian standards in one of every five liquors and wines sampled last Summer. The Canadian standards were prompted by the 1977 findings of German researchers who tested urethane in rodents and found that cancer occurred more often in rats fed major doses of the chemical.

Representatives of the Distilled Spirits Council of the US note that urethane has never been found to be a carcinogen in humans and accuse CSP of "fright mongering."

"Urethane is an issue looking for a problem," says Janet Flynn, a spokeswoman for the industry group. She adds that the CSP petition has "irresponsibly created fear in the minds of consumers."

Fina Cited by OSHA

Department of Labor has cited the Fina Oil & Chemical Company for 46 alleged willful violations of the Occupational Safety and Health Administration's recordkeeping requirements and proposed fines of \$184,000.

The violations allegedly occurred at the company's Port Arthur, Tex., plant from January 1985 through March 1986. OSHA proposed penalties of \$4,000 for each of the alleged willful violations.

The Fina citations follow recent similar actions by the Labor Department against a Union Carbide plant at Institute, W. Va., and a Chrysler Corporation plant at Belvidere, Ill., also accused of violating on-the-job safety and health recordkeeping requirements.

"Recordkeeping is the foundation on which any successful safety and health program is built and we cannot accept indifference on the matter," Assistant Secretary of Labor for Occupational Safety and Health John A. Pendergrass

said in announcing the citations against the Texas oil refinery.

Fina's alleged violations were discovered in April during an inspection of the Port Arthur refinery as part of OSHA's special emphasis program on the chemical manufacturing industry. The plant employs about 480 people.

The alleged violations were discovered by comparing the firm's logs and medical records with the annual summary of injuries and illnesses required by OSHA. The alleged violations included failures to record instances of restricted work activity, medical treatment and illnesses.

Fina has 15 working days to contest these citations and the proposed penalties.

A willful violation is defined by OSHA as one to which an employer or other knew that what was being done constituted a violation or was aware that a hazardous condition existed and made no reasonable effort to eliminate it.

Toxic Chemical Test Methods Evaluated at Battelle Meeting

Toxicologists from around the world met recently at Battelle to identify, evaluate, and recommend nonmammalian systems for use in toxicity testing. Of the nearly 70,000 discrete chemicals in the marketplace, fewer than 10 percent have enough toxicity test data to assess their risk to human health and safety.

During the conference, held November 11-13 at Battelle's Columbus Division, international toxicology experts discussed nonmammalian organisms including protozoa, algae, sponge, hydra, planarians, mollusks, insects, fish, amphibians, and chickens. Additionally, they considered such test systems as computer models.

According to Dr. Thomas D. Sabourin, Principal Research Scientist at Battelle, nonmammalian test systems increasingly are becoming a viable alternative to traditional laboratory animals in biological testing due to changes in approaches to regulation, high costs and length of studies, and issues related to the use of animals.

"For example," Dr. Sabourin explained at the conference, "the total cost and time needed to bring an agricultural pesticide to

market is \$10-20 million and eight to nine years. Alternative testing is simpler and less expensive to use."

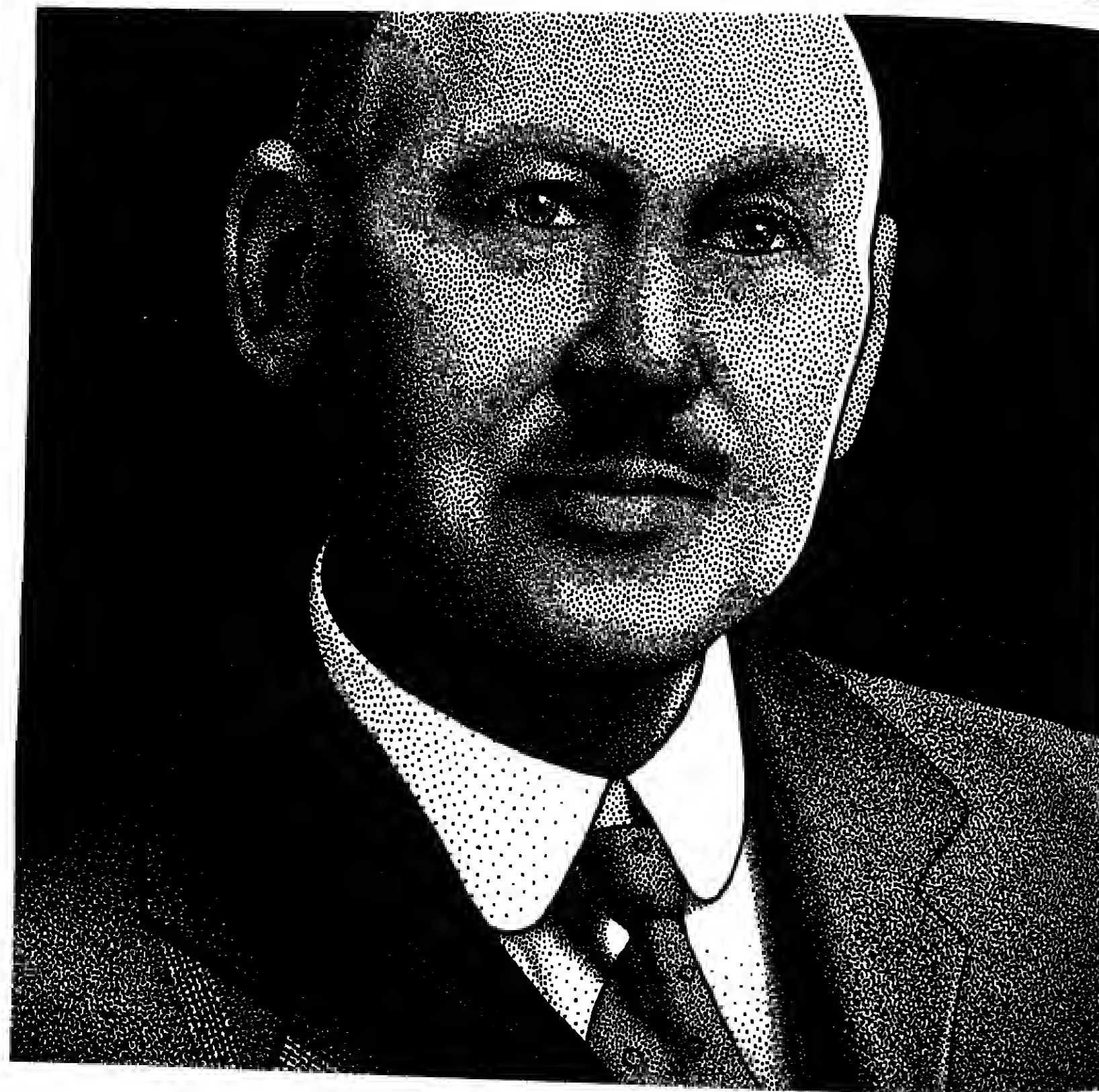
In addition to economic and time constraints, animal use issues provide compelling motivation to develop nonmammalian test systems, he said. For example, on May 6 the U.S. House of Representatives' Committee on Science and Technology met to hear experts present alternatives to animal use in research and testing.

A key report was issued in February by the US Congress' Office of Technology Assessment entitled "Alternatives to Animal Use in Research, Testing, and Education." The report examines nonmammalian test systems as well as exploring the rationality and ethics involved with higher animal testing.

In addition to mentioning animal use concerns, speakers at the Battelle conference touched on key legislation affecting animal research. This legislation is influencing the trend towards use of nonmammalian test systems, Dr. Sabourin said.

Dr. Sabourin explained that the shift in testing to lower life form models is possible due to the principle of unity in diversity. This principle states that all species share com-

Continued on Page 16



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OILS, FATS & WAXES

Palm Oil Market Is Steady, Though US Buyers Mark Time

Palm oil pricing has stabilized at a firm level in the US and world markets. Palm is said to be holding its strong position by virtue of continued lacks in production in Malaysia and by steady buying in the world market.

US buyers, however, have not been contributing to the steady business that Malaysia is said to be seeing. Rather, US oil consumers are staying away from currently high-priced imports, like palm, coconut, and other tropical oils. Instead they are going to cheaper, domestically-produced oils, particularly soybean oil.

This is a follow-through on a trend begun about a month ago when several large US oil buyers started trading away some of their paper palm oil purchases. More buyers joined this move away from palm during the month of November, selling off their forward f.o.b. contracts, according to industry.

Even some consumers who had bought oil contracts, which are more difficult to resell, have been trading their contracts back to sellers when possible.

Demand in the rest of the world market, meanwhile, is apparently running at normal levels. Pakistan, for instance, is said to be buying sizeable quantities on a regular basis.

The only question mark has been India, whose buying has been rather erratic. In late October the Indians bought large amounts of palm oil when the price was beginning to firm. This was interpreted as a signal that the price was unlikely to weaken; otherwise, the

buying went, India would have postponed its purchases in hopes of getting lower prices later on.

Two weeks later, though, India seemingly backed out of the market and re-sold some of its palm oil to the world market. At that point, analysts were predicting a softened palm market. Instead, though, prices have held, and India came in for 12,000 tons of palm oil in late November. While some called this amount disappointing, others were pleased to see India buying at all.

Throughout this turbulence, the Malaysians have maintained firm pricing. Producers of crude palm oil are said to be largely responsible for setting the price of the oil, and they are continuing to see refining interest and export movement from previous weeks. As long as the material is moving, sources say, crude producers will see no reason to ease off on their pricing stance.

Malaysian producers also point to lower-than-expected production levels for September, October and November. Preliminary es-

timates made available by the Malaysian government place September palm oil production at 470,400 metric tons (MT).

This represents a decrease of nearly 50,000 metric tons compared to September 1985 production of 517,700 tons. Although this in-

PRICES TRENDLINES

WEEK ENDING NOV. 28, 1986

CHANGES/UP

Grocery, white, choice, tanks, divd, NY, 1c. per lb.
Grocery, yellow maximum 10%, 1/2c. per lb.
Palm oil, NY, 1/2c. per lb.
Soybean oil, Decatur, 57c. per lb.
Yellow, inedible, fancy, tanks, divd, NY, 1/4c. per lb.
Yellow, inedible, bleach, tanks, divd, NY, 1/4c. per lb.

CHANGES/DOWN

Coconut oil, NY, 1/4c. per lb.
Cottonseed, 41% bulk, Memphis, \$10 per ton
Peanut, 50% bulk, \$5.56 per ton
Soybean, 44% bulk, Decatur, 10c. per ton

OILS, FATS INDEX

The Oils, Fats & Waxes Index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Nov. 28, 1986 80.75
Nov. 21, 1986 80.47
Oct. 31, 1986 81.94
Nov. 29, 1985 85.88

Chemical Prices Start on Page 36

certainly not a short supply situation, producers say that they had been counting on greater quantities of available oil.

VEGETABLE OILS

CASTOR OIL — The price of this oil has firmed up in anticipation of higher pricing from Brazilian suppliers. Currently quoted levels in the US range between 32c. and 34c. per pound for raw No. 1 Brazilian material in tanks.

"The market is showing signs of increased prices out of Brazil," says an industry source. Another trader says that no activity has been done with Brazil at the new prices, "but when activity is done, it will be at the higher levels," says the source.

Brazilian producers are feeling no pressure to sell right now, sources say, allowing them to go ahead with the price increase they have been threatening for some time now.

"There is some decline in crop size, business has been fairly brisk, so they have no pressure to sell," says a source.

Also, processing of castor beans has been completed in Brazil, according to an industry source. Crushers have run out of both domestically grown beans and those that were imported from other countries, particularly China, says the source, meaning that supplies from here on in will be limited.

LINSEED OIL — The market for linseed oil is quiet at the moment, with most of the regular buyers having completed their purchasing during the recently ended contracting period. "All of the oil was either sold or put into storage," says an industry source, who adds that he is now seeing slow linseed oil activity.

The seasonal slowdown of the paint industry is largely responsible for the slackened demand for the oil, sources say. "Currently, the best volume is going to priming ink and hardboard producers," says a source.

The volume of available oil is said to be on the low side, indicating that the price is unlikely to fall in the near future, despite allowed buying interest. Oil levels are remaining low even as meal demand is strong, being fed by a limited supply, according to a source.

"There's not a lot of oil, not a lot of meal — it's a pretty well disciplined market," says a source.

Continued on Page 13

LATEST SPOT PRICES

MARKET CLOSE NOV. 28, 1986

CRUDE VEGETABLE OILS

Coconut oil, NY lb. 20 1/2
Corn oil, Pacific lb. 19 1/4
Corn oil, Midwest lb. 20
Crude oil, Velsco lb. 17 1/2
Lined oil, Velsco lb. 28
Peanut oil, NY lb. 18 1/2
Peanut oil, Southeast (refined) lb. 28
Soybean oil, Decatur lb. 147 1/2

REFINED VEGETABLE OILS

Coconut oil, NY lb. 28
Corn, Jumbo tanks lb. 28 1/2
Crude oil, Jumbo tanks, NY lb. 28 1/2
Crude oil, Jumbo tanks, NY lb. 28 1/2
Soybean oil, NY lb. 18 1/2

OILMEALS

Crude, 14% bulk, Memphis ton \$140
Lined, 14% bulk, 54% bulk, Fargo ton \$106
Lined, 14% bulk, 54% bulk, Fargo ton \$185
Soybean, Decatur, 44% bulk, Decatur ton \$181.50

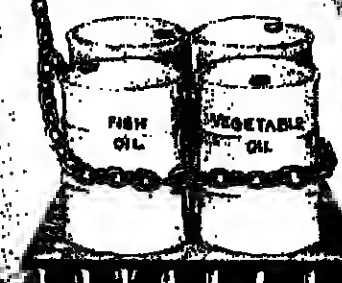
FATS & GREASES

Cotton, white, choice, tanks, divd, NY lb. 11 1/4
Cotton, yellow maximum 10%, 1/2c. per lb. lb. 10 1/4
Lard, tallow, bulk tanks, divd, Chicago lb. 13 1/2
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Chemical Finance

SmithKline Sates Big Buyback of Shares

SmithKline Beckman Corporation, the diversified pharmaceutical company headquartered in Philadelphia, is planning a big buyback of its shares in what is called a "Dutch" auction. Depending upon bidded prices, the sale could total anywhere between \$3 million and 15 million of the company's 76,043,109 shares outstanding.

Shareholders electing to tender their shares must do so by designating a price within the range of \$88 to \$98 per share. SmithKline will review the tenders, and, subject to the terms of the offer, the company will select a price from this range and purchase tendered shares at or below that price.

This special program continues a program of share repurchases that the company has been conducting since January 1984, stated Henry Wendt, SmithKline's president and chief executive officer.

Werner-Lambert to Issue \$100 Million Notes

Werner-Lambert Company, Morris Plains, N.J., will issue \$100 million of 7 1/4 percent notes due December 1, 1993, priced at par, under the company's existing \$200 million shelf registration. Proceeds will be used for general corporate purposes. Co-managing the notes will be Bear Stearns & Co., First Boston Corporation, Goldman Sachs & Co. and Morgan Stanley Incorporated.

British Petroleum Seeks Tokyo Stock Listing

British Petroleum Company Plc is planning to apply for the listing of its common stock on the Tokyo exchange. The formal listing application is expected to be made in the first quarter of next year, following publication of British Petroleum's results for 1988.

Subject to approval by the Tokyo Stock Exchange and the Japanese Ministry of Finance, the listing would be effective by the middle of 1989. BP's shares of American Depositary Receipts are already listed in the UK, the US, Canada, the Netherlands, Germany, France and Switzerland.

Sterling Drug to Purchase Up to 2 Million Shares

Sterling Drug, Inc., New York, has authorized the purchase of up to 2 million of the company's common shares, to be used in conjunction with various employee benefit programs and for other corporate purposes. The company has approximately 59 million shares outstanding. Morgan Stanley & Co. will assist Sterling with the purchases.

Hoechst-Celanese Merger Delayed on Antitrust

American Hoechst Corporation and Celanese Corporation have both received requests for additional information from Federal Trade Commission under the Hart-Scott-Rodine Antitrust Improvements Act with respect to the tender offer by Hoechst Acquisition Incorporated, a wholly owned subsidiary of American Hoechst, for all of Celanese's outstanding shares of common stock, convertible preference stock and 7 percent second preferred stock.

Under FTC rules, the purchase of shares by Hoechst may not take place until 10 days after America Hoechst has substantially complied with the FTC request. Both companies said they are in process of complying with the FTC request.

Uniroyal Announces Payment on First Preferred

Uniroyal Inc., New York, said that holders of shares of Uniroyal first preferred stock would receive a final distribution of \$1.08 per share, comprising the sum of \$1.00 per share plus accrued but undeclared dividends from 1988 earnings of \$8 per share. The record date for the distribution will be December 5, and payment will be made as soon as practicable, the company stated.

Uniroyal also announced that it is redeeming its 5 1/4 percent convertible subordinated debentures due February 15 at 101.25 percent of their outstanding principal amount. The payment date is expected to be December 18.

As previously announced, a regular dividend of \$2 per share on first preferred stock from 1985 earnings will be paid on December 24 to shareholders of record on December 5.

ImmunoGenetics Posts Strong Third Quarter Gains

ImmunoGenetics, a biotechnology firm headquartered in Vineland, N.J., said its revenue increased 15 percent to \$4.9 million, and operating profit more than doubled for the quarter ended September 30, reflecting the continued strength of its core business operations in poultry vaccines and veterinary pharmaceuticals. Net income for the quarter was \$282,419, or 4 cents per share, as compared with \$37,833, or one cent, in the 1985 period.

Dr. Edward B. Hager, chairman and CEO states that the company is nearing the completion of a major restructuring program that involves exiting from the red meat industry, strengthening existing core operations in poultry vaccines and veterinary pharmaceuticals and expanding into human and veterinary specialty pharmaceuticals.

Symbiotics Raises Revenue, Cuts Loss

Symbiotics Corporation, of San Diego, Calif., one of the top developers and manufacturers of monoclonal antibodies, boosted its second-quarter revenues more than six times to \$1,554,454 from \$147,425 a year earlier, while its net loss in the quarter (ended September 30), was sharply reduced to \$30,802 from \$148,259 last year.

During the quarter, Symbiotics completed a secondary public offering of common stock yielding net proceeds of \$5.8 million which will be used to accelerate the introduction of diagnostic products for humans, stated Edward T. Maggio, president and chief executive officer.

Merck Declares Common Stock Dividend

Directors of Merck & Co., Rahway, N.J.-based pharmaceutical and chemical company, have declared a quarterly dividend of 55 cents per share on the company's common stock, payable January 2 to stockholders of record at the close of business on December 8. The amount of the dividend reflects the stock split that was effective in May of this year.

Alcan to Redeem Sinking Fund Debentures

Aluminum Company of Canada, Montreal, has given notice of redemption on December 29 of all of its outstanding 9 1/4 percent sinking fund debentures due March 1, 1994. These debentures, denominated in US dollars, are listed on the New York Stock Exchange.

OILS, FATS & WAXES

the source. This situation is expected to remain until the first of the year, when crushing facilities tend to see a seasonal pick-up in activity.

OLIVE OIL — The price for Italian B-grade olive oil has fallen off, down to the currently quoted level of \$5.35 per gallon, in drums. Edible Spanish olive oil is still quoted at \$8.00 per gallon, although traders say that they are beginning to see signs of weakness in the market.

One dealer attributes the weaker pricing to a stronger US dollar, while another says that recently introduced subsidies given by the Common Market to Italian and Spanish exporters are responsible.

Demand in the US continues to be slow, with one source noting that consumers buying for frying purposes are purchasing the less expensive soybean and cottonseed oils.

Some positive effects can be seen in the demand picture, says another source, from recent advertising campaigns emphasizing the healthful aspects of olive oil, including low cholesterol and ease of digestibility.

MISCELLANEOUS

COCOA BUTTER — The spot price for cocoa butter is quoted at \$2.05 per pound. Domestic demand is said to be down presently, contributing to the weakened pricing. The fall-off in demand is associated with the end of the holiday buying season for many companies.

Cocoa butter pricing is falling with that of soybeans, according to an industry source. West African crop is proving larger than expected to be, the source says, and prices to ease down.

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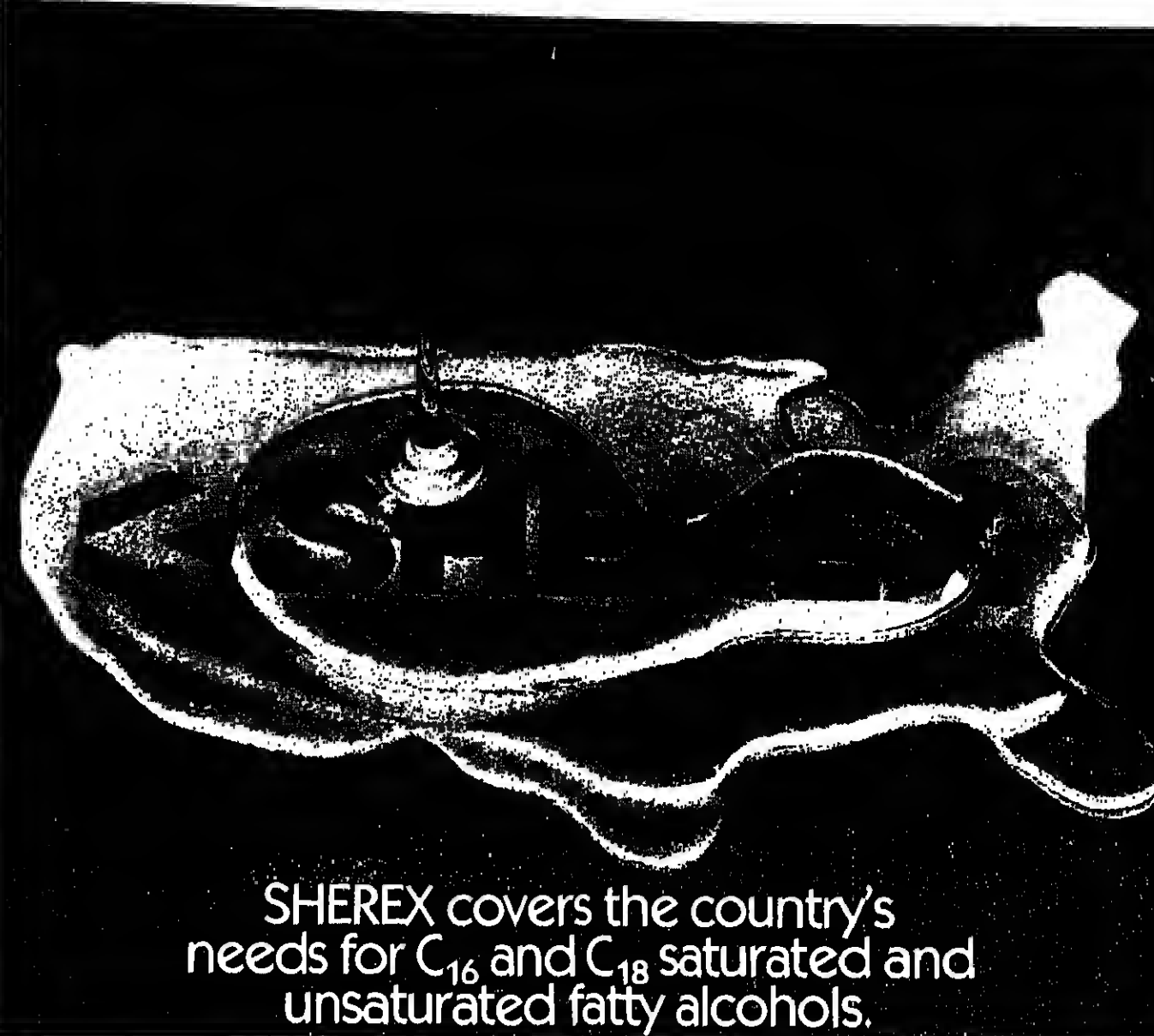
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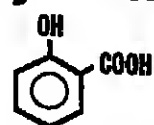
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AROMATIC ORGANICS

Phenol Discord

Continued from Page 3

October and November, says one producer; those failures are said to have made January 1 an important date for phenol producers. "Our margins have been squeezed pretty badly," comments one.

Producers say that the low phenol price in the US has discouraged imports of material this year, which have been flowing at only a fraction of the 1985 rate.

Exports have been moving at a moderately heavier clip than last year, and have been particularly strong since July. The falling value of the US dollar is said to have been contributing to these trends.

Phenol production, according to the latest International Trade Commission figures, declined from 738 million pounds in the second quarter to 698 million pounds in the third quarter, a 5.2 percent drop. It is observed that the industry experienced a fair amount of downtime during the latter part of the third quarter.

BTX — Shell Chemicals Company increased its benzene contract pricing for December 1 by 5c. per gallon, to 92c. per gallon from 87c. per gallon. This equals the level reported the previous week for Exxon Chemical Americas. Standard Oil Company has a 95c. per gallon posting.

The spot benzene market firmed up last week to between 93c. and 93 1/2c. from 92c. per gallon the previous week. Should spot pricing continue to move upward, another round of contract adjustments is believed likely at mid-month. All of the above postings involve temporary voluntary allowances off considerably higher list prices.

"There is plenty of demand, and the market seems to perceive a shortage" of supply, comments a source in explaining the upward price trend. Much of this is tied to Exxon's production problems which have compelled the company to buy substantial amounts of material.

It is pointed out that aromatics pricing, particularly benzene, is "inordinately bullish" relative to crude oil and gasoline values.

The spot toluene market is quoted at 70c. per gallon, unchanged from the week before. It is said that neither supply nor demand are strong. The spot xylene market is quoted between 78 1/2c. and 80c. per gallon.

BENZYL CHLORIDE — Velalcol Corporation says that, effective immediately, it is raising off-list pricing for tanktrailer and tanker peroxide-grade benzyl chloride by 5c. per pound on spot material and on contract terms permit.

The company's list pricing holds steady at 83 1/2c. per pound, as does pricing on drum quantities. A spokesman attributes the off-list adjustment in part to higher labor and waste disposal costs.

Occidental Chemical Corporation, the other domestic producer, increased its bulk off-list pricing by 5c. per pound November 17. CdF Chimie, North America, the primary supplier of imported material says it "will see how the market responds" to these moves.

One industry source says there has been some price erosion in the market this year related at least in part to CdF's marketing efforts. Producers say that demand for ben-

zoyl chloride has grown at a 2 to 3 percent rate.

CYCLOHEXANE — In accordance with the industry-wide pricing formula, the per-gallon December 1 benzene contract price hike translates into a 4.125c. per gallon increase in cyclohexane pricing to a level of \$1.05025 for most producers. At least one

PRICES TRENDLINES

WEEK ENDING NOV. 26, 1986

CHANGES/UP

None

CHANGES/DOWN

None

AROMATICS INDEX

The Aromatic Organics Index reflects the prices of 14 representative aromatics in this sector and the quantity of each produced in 1985.

Nov. 28, 1986 167.81
Nov. 21, 1986 167.81
Oct. 31, 1986 167.81
Nov. 29, 1985 167.81

Chemical Prices Start on Page 38

producer's posting is 1c. per gallon lower. In the market during November there reportedly were some discounts of approximately 2c. per gallon granted by at least one producer. Producers differ in assessment of the discounting's extensiveness.

"Apparently the industry met it," says an observer, while another comments that "we are not having trouble selling material" at higher price. The activity is attributed to producers' efforts to position themselves favorably on a volume basis for contracting the new year.

Although producers say that domestic demand has been strong in recent months, the latest International Trade Commission figures record an 18.5 percent drop in production from the second quarter to the third. Its dropoff is attributed primarily to the closing of E.I. du Pont de Nemours & Co.'s 50-million-gallon-per-year Corpus Christi, Tex. plant in July, and Phillips Chemical Company's 90-million-gallon-per-year Sweeny, Tex. swing facility in May.

In addition, at least two producers experienced minor production outages during the period, exports tailed off by 19 percent, and inventories are said to have been kept at low levels. Phillips says it expects to restart the Sweeney plant around mid-month.

STYRENE — Fina Oil & Chemical Company says it has raised styrene prices by 2c. per pound, effective today, December 1. The new price schedule lists styrene at 30 cents per pound, less a 4c. temporary voluntary allowance.

Fina's action follows by one week a widespread 5 cents per gallon contract benzene price increase launched for December 1. In that action, benzene contract prices were hiked to 92c.-95c. per gallon.

Benzene producers cited tight supply and strong derivative demand, particularly for styrene, as the factors contributing to the price increase. "Styrene producers are all running full blast."

They need the benzene, are able to pass through the higher pricing, and are taking in much (benzene) as they can get their hands on," one benzene trader commented at the time (CMR, 11/21/86, p. 13).

Since August, benzene prices have run up 15c. per gallon and styrene contracts have firmed 5 cents per pound prior to Fina's announcement.

One analyst notes that styrene selling prices hopped from an average of 20 1/2c. per pound in September to 23 1/2c. in November. However, he also notes that, following styrene's price hike, there has been a flood of imports this fall.

Aspartame Wins

Continued from Page 5

six-month clinical studies funded by the company raised no new health concerns.

Robert Gelardi, executive director of the Calorie Control Council representing makers and suppliers of dietary foods, called the petition "totally unwarranted," asserting it is "just the latest in a series of flawed attempts that have been previously made by the Community Nutrition Institute."

In another development, FDA announced the approval for the use of aspartame in four major new food and beverage categories.

According to Nutrasweet Company president Robert B. Shapiro, "These new categories will give consumers a wider choice of great-tasting products that are nutritious, sugar-free and low in calories. These are products the entire family can enjoy throughout the day," said Shapiro.

Among the new products which can be made available under the category approvals are:

• Refrigerated juices in ready-to-drink, concentrated and frozen packages. Coke Foods, division of The Coca-Cola Company, and Tropicana Products, Inc., a division of Healtree, submitted applications in this category.

• Ready-to-eat frozen desserts on a stick, such as fruit and dairy bars, frozen puddings and gelatins. Coke Foods and Tropicana again submitted petitions in this category.

• Breath mints submitted by Shaklee Corp. "We are working closely with our customers to ensure that dozens of consumers' favorite products are readily available," Mr. Shapiro says.

Hazardous Waste

Continued from Page 7

Chemical was responsible for a large proportion of the hazardous wastes taken to the site.

The decree requires Olin Hunt to carry out the closure of the site and related post-closure work under specifications contained in federal environmental laws. Such requirements normally include construction of a cap on the contaminated area to prevent the spread of pollution.

Until the new water system is built, Olin Hunt is required by the decree to install activated carbon filters for all residences whose drinking water is affected by hazardous wastes from the site.

Olin Hunt also is required to carry out a comprehensive groundwater remedial investigation/feasibility study to determine the scope of contamination of the groundwater plume beneath the site.

The Federal government estimated that the work to be performed by Olin Hunt will cost the company at least \$2 million. This money is in addition to the \$3.8 million ear-ear fund.

The state of Rhode Island also filed a complaint earlier against these same 51 defendants as well as 38 defendants not named in the federal suit. The federal and state governments, saying they had obtained a proposed consent decree with the 51 defendants, asked recently that the complaints be consolidated, and the court granted the motion.

Other defendants named in the decree include Ciba-Gelby Corp., Monsanto Company and Chemco Corp.

Brazil Mulling

Continued from Page 7

1990's, would include a new 300,000-ton-year ethylene facility, together with downstream units for linear low-density polyethylene (180,000 tons) and polyvinyl chloride (160,000 tons).

Petroquímica Uniao's naphtha-based cracker at Capuvs, Santo Andre has capacity for 380,000 tons per year of ethylene. Remaining naphtha-based ethylene capacity in Brazil belongs to Copeau (Petroquímica do Sul), the third of Brazil's "petrochemical poles," which has a 420,000-ton-a-year unit at Triunfo. Some 200,000 tons of additional ethylene is based on ethanol.

It is believed at least one more ethylene complex will be needed in the next decade to serve fast-growing petrochemical and downstream markets in Brazil. The industry has been hobbled by lack of investment in recent years, despite above average growth in the overall economy.

Acrylic Sheet Correction

A previous report (CMR, 11/24/86, pg. 4), erroneously indicated Rohm and Haas Company would use its proprietary melt calendaring (MC) process at a new acrylic sheet plant in Matamoros, Mexico. The plant, which is due on stream the first quarter of 1987, will use the cell casting process.

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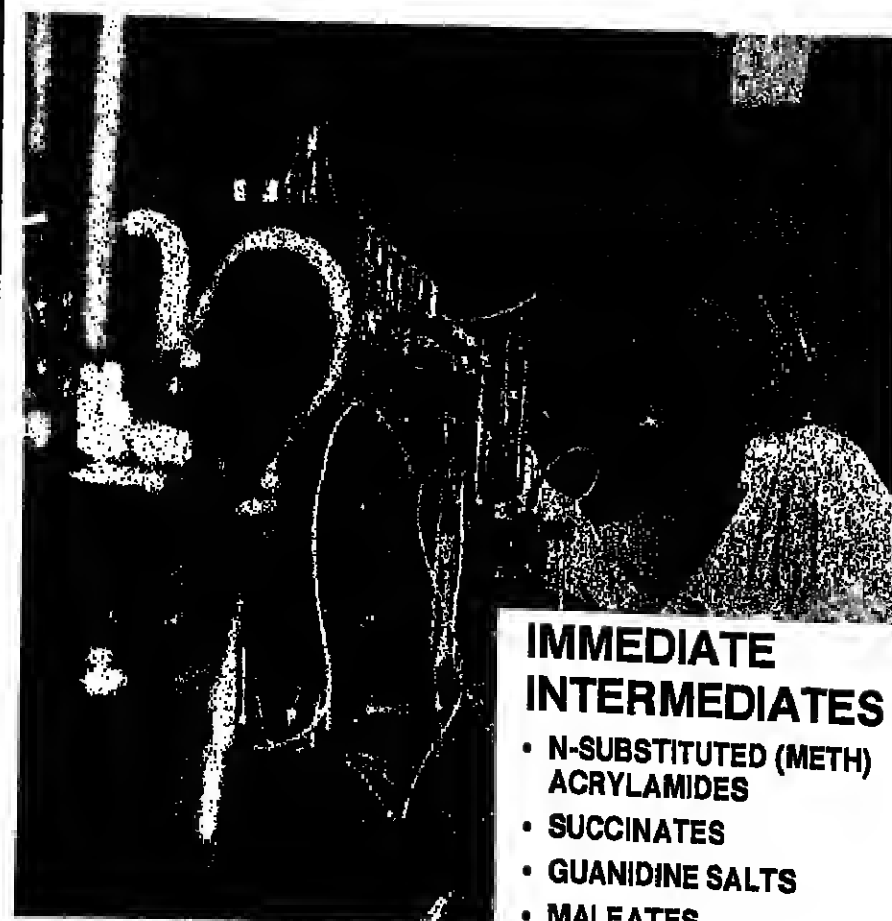


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Toxic Chemical Tests

Continued from Page 8

mon attributes, such as the basic structure within their cells. This, for example, is the reason why the nerves of worms communicate in the same way as human nerves.

During the Battelle conference, speakers identified four major areas for development of nonmammalian test systems and gave technical reviews of each. The speakers and their corresponding topics were as follows:

• Dr. Frederick De Sarres, National Institute of Environmental Health Sciences, who discussed "Genetic Toxicology".

• Dr. John Couch, U.S. Environmental Protection Agency, who spoke on "Carcinogenesis".

• Dr. Gary Kimmel, U.S. Environmental Protection Agency, who examined "Developmental Toxicology".

• Dr. Ellen Silbergeld, Environmental Defense Fund, who talked on "Neurotoxicology".

In relation to these major areas of endeavor, Dr. William Farland of the EPA and Dr. Robert D'Amato of Procter & Gamble addressed toxicologic considerations concerning the use of alternative testing from the regulatory agency and industry perspectives, respectively.

Dr. Farland, director of the carcinogen assessment group at EPA's Washington headquarters and workshop co-chairman, cited the evolution in the risk assessment process used in the federal sector and stated, "Data from alternative test systems can play a large role in the identification of potentially hazardous compounds and should be taken into account in articulating the weight of evidence underlying the characterization of human risk. Regulatory decision makers can make well-informed judgments regarding possible regulatory action only if all of the available information is considered and the strengths and limitations of the information evaluated."

"Research is now needed to design and implement programs that can validate these alternatives as scientifically sound approaches that will be accepted by the regulatory agencies such as the Food & Drug Administration and the Environmental Protection Agency," noted Dr. Barry Goss,

manager of the Environmental Sciences department at Battelle's Columbus Division and co-chairman of the workshop. "We should include developing extensive databases on selected compounds by conducting comparative experiments using alternative species."

Dr. Farland, director of the carcinogen assessment group at EPA's Washington headquarters and workshop co-chairman, cited the evolution in the risk assessment process used in the federal sector and stated, "Data from alternative test systems can play a large role in the identification of potentially hazardous compounds and should be taken into account in articulating the weight of evidence underlying the characterization of human risk. Regulatory decision makers can make well-informed judgments regarding possible regulatory action only if all of the available information is considered and the strengths and limitations of the information evaluated."

Bhopal Disaster

Continued from Page 5

toxic chemicals into the Rhine.

The report says an international agreement of hazardous chemicals and their levels should be prepared to identify facilities worldwide which produce, use, store, transport or dispose of substances in quantities sufficient to cause a serious risk, either immediate or delayed, to persons inside or outside the facility in the event of an accidental release.

Management should notify the relevant government authorities, trade union or emergency services with information indicating that the company has taken "all possible steps" to prevent major accidents and limit their consequences, the report says.

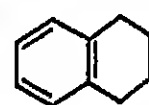
It also says new plants should be designed and existing plants modified to minimize the possibility of a release of hazardous chemicals. In addition, the report advises that potentially hazardous installations should not be sited in heavily populated areas where prevailing winds or other factors could increase the hazard.

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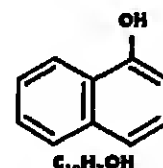
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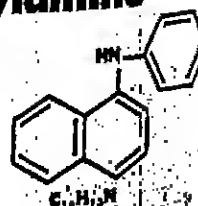
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Methylene Chloride

Continued from Page 3

used in various industrial processes, food preparation and agriculture. More than one million workers are estimated to be exposed, with the greatest exposure occurring in metal degreasing.

Last week's ANPR follows the issuance of guidelines by OSHA last Spring on controlling worker exposure to DCM while the agency deliberated on whether changes were needed to its mandatory standard.

The action also coincides with moves by Environmental Protection Agency, Food and Drug Administration and Consumer Product Safety Commission, among others, to greatly reduce the use of the chemical. The National Institute for Occupational Safety and Health has recommended that worker exposure to DCM be reduced to the lowest feasible level.

Dr. Paul A. Cammer, president of the Halogenated Solvents Industry Alliance (HSIA), said the members of his organization welcome the agency's action. HSIA represents about 150 companies involved in the manu-

facture, distribution, recycling and use of chlorinated solvents, including DCM.

"HSIA member companies have been recommending for some time a 100 ppm threshold limit value (TLV), which is in agreement with the 8-hour time-weighted average TLV currently recommended by the American Conference of Governmental Industrial Hygienists," Dr. Cammer said.

"An important aspect of the ANPR," Dr. Cammer continued, "is OSHA's announcement that methylene chloride did not pose sufficient risk to warrant the issuance of an emergency temporary standard, as requested by the United Auto Workers."

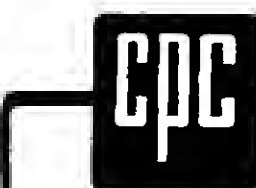
"We disagree, however, with OSHA's current approach of relying on the NTP mouse study as a basis for human health evaluation. The most recent scientific data clearly show that mice and humans differ greatly in how they metabolize and would be affected by methylene chloride. OSHA needs to take into account this new information before reaching any conclusions."

Another part of the ANPR where HSIA disagrees with OSHA's approach is the exposure assessment. "It is clear," said Dr. Cammer, "that where OSHA lacked actual exposure data, it assumed the maximum allowable level of 500 ppm as the estimate of human exposure. This assumption greatly overestimates the actual exposure."

OSHA is seeking the following information on methylene chloride:

—potential health effect, permissible exposure levels, production and control systems, substitution availability, protective equipment and respirators, exposure monitoring, worker training, and medical surveillance; control measures and benefits, and environmental effects;

—also impact on small entities, duplicating/overlapping/conflicting rules, financial and economic profiles, production and control systems, and potential modifications to such systems.



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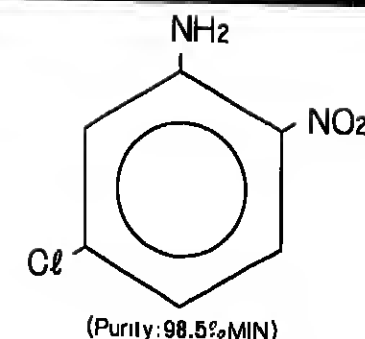
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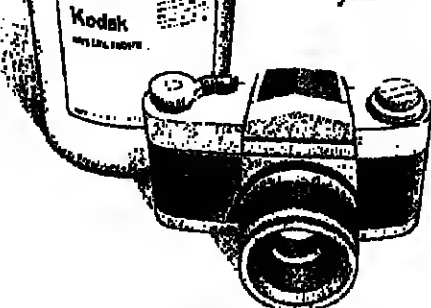
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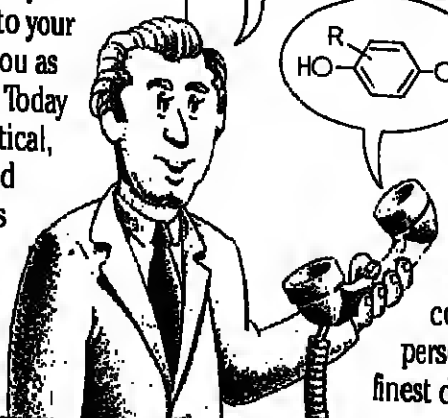
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ALIPHATIC ORGANICS

Ethylene Price Hikes Fail to Follow Derivatives

Ethylene prices remained unchanged in November, despite firmer prices for all its major derivatives. Sources say November contract settlements averaged 14 1/2 cents per pound on the Texas Gulf Coast, the same price as October.

"Three months in a row of ethylene price increases was not likely," one producer commented, "not with raw material costs flat to down." Ethylene sellers gained "hard fought" half-penny price increases in both September and October, another source says. The producer says supply and demand have been in "reasonably" good balance, but the market is not tight enough to force higher prices. Feedstock costs have been mainly flat, sources say. According to Hugh Pylant, Price Consultants, Houston, ethane prices may be one-half a cent per gallon higher now than in September, but propane and naphtha costs are essentially unchanged. Gas oil prices have firmed with the growing demand for heating oil, but producers have been shifting away from it anyway.

As a result, ethylene producers can merely watch as the olefins' major derivatives firm in price. Mr. Pylant notes that liner grade low density polyethylene prices have surged from an average of 24 1/2 cents to 28 1/2 cents per pound since September, while high density polyethylene selling prices have risen from 29 1/2 cents per pound to 32 1/2 cents in November. In addition, styrene prices gained an average of 3 cents in the past two months, ethylene oxide prices have risen 1 cent to 2 cents per pound, and polyvinyl chloride prices have gained 2 cents in two months.

Demand has been rising for these products this year as well. Mr. Pylant projects that total polyethylene production will rise 600 million pounds this year.

VINYL CHLORIDE TO INCREASE Vinyl chloride output will also increase 800 million pounds this year, while styrene production will jump almost 400 million pounds, Mr. Pylant says. As a result, he projects that ethylene production will reach 32.2 billion pounds this year, up from 31.5 billion pounds last year.

Several sources commented that a few producers in the Texas Gulf were more concerned with maintaining market share than with boosting ethylene prices. Several major facilities took turnarounds earlier this fall, and one producer says "some producers were afraid of losing market share while their plants were down." A market observer adds, "Some producers are concerned about moving volume, and their short term cash-flow. The buyers know this, and are exploiting it to the hilt."

At present, nearly all operational ethylene plants in the US are on-line. Amoco Chemicals closed a one-billion pound unit in Chocoma Bay, Tex. in mid-November. The company says the unit was closed to work on maintenance, while some maintenance was done. The unit is due back on line in mid-December.

Most of the excess material that has contributed to keeping ethylene prices down is concentrated in the Texas Gulf Coast, one observer says. By contrast, he says plants in Louisiana are running full out, and over 1 billion pounds of ethylene a year flow from Texas to the Mississippi River. As a result,

the ethylene market price on the River is a penny to a penny-and-a-half higher than the 14 1/2 cent per pound average quoted in Texas.

Looking ahead, sources say ethylene prices will probably remain flat through December, but producers will launch a major increase for January. One source says low ethylene inventories (1.2 billion pounds as of

PRICES TRENDLINES

WEEK ENDING NOV. 28, 1988

CHANGES/UP

None

CHANGES/DOWN

None

ALIPHATICS INDEX

The Aliphatic Organics index reflects the prices of 20 representative materials in this sector and the quantity of each produced in 1985.

Nov. 28, 1988	222.80
Nov. 21, 1988	222.80
Oct. 31, 1988	222.80
Nov. 29, 1985	222.80

Chemical Prices Start on Page 36

September 30), and a good supply-demand balance will prompt producers to shoot for a large increase regardless of the feedstock cost situation.

BUTADIENE — Prices for this olefin definitely bottomed out at 9c. per pound for contracts in October and November, and are now showing signs of improving. Several sources say the spot price for butadiene has climbed above contract levels and is nearing 10c. per pound. However, the market is so snug, that sources say little material is available for spot purchases.

According to one source, Exxon, which does not publish its prices, is asking 12c. per pound for butadiene in December. While it is unlikely prices will climb this high, producers may be able to move contract prices up to 10c. per pound.

One source says 11c. per pound "should be a supportable floor price" for butadiene. By this, he means an 11c. price would better indicate the snug supply-demand conditions prevailing in the market, while remaining low enough to prevent a new flood of imports.

Meanwhile, propylene prices remained unchanged in November at an average price of 9 1/2 c. per pound for chemical grade material. The refinery grade market remains snug and prices are quoted at 8c. to 8 1/2 c. per pound, unchanged for the month. A continuing shift towards lighter feedstocks at olefin plants (though, promises to cut into propylene (and butadiene) supplies in the fourth quarter, and may lead to tighter propylene availability in early 1987 and firmer prices.

CAPROLACTAM — Responding to a very tight supply-demand balance in the caprolactam market, Nipro, Inc., Augusta, Ga., says it will boost all off-schedule prices for the nylon 6 precursor by 1 1/2 c. per pound, effective January 1.

Output of caprolactam this year is expected to nearly match the industry's rated capacity of 1.09 billion pounds (CMR 10/13/88). All three producers, Nipro, BASF, and Allied report that their facilities have been run at full capacity for most of the year. It is this market tightness, a Nipro official says, that prompted his company to hike off list prices. The current market price, he says, ranges from 82 cents per pound to 70 cents per pound, depending on contract sizes.

The Nipro official says that the company made its pricing decision prior to higher contract prices announced for benzene on December 1. Cyclohexane, the raw material for Nipro's caprolactam, is tied to a pricing for

PRICE HIGHLIGHTS

ALIPHATICS IN NOVEMBER

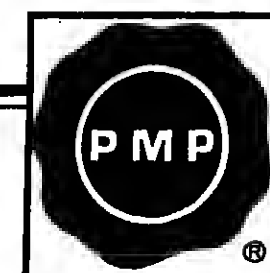
	NOV.	OCT.
(US \$)	(US \$)	(US \$)
Butadiene.....lb.	8	10 1/2
Ethylene.....lb.	14 1/2	14 1/2
Ethylene Glycol.....lb.	18 1/2	18 1/2
Propylene.....gal.	28	27-28
Propylene.....lb.	8 1/2-8 3/4	8 1/2
Vinyl Chloride.....lb.	16-16 1/2	15 1/2-16

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tightness, they can't afford to have any material detained.

Meanwhile, crude imports are down almost 38 percent, to 2.25 million pounds, from 3.89 million pounds. However, five times more resublimed material has come in through September, compared to last year (1.7 million pounds, compared to 339,000 pounds). One observer claims the same amount of iodine is coming to the US, but the government is classifying more of it as resublimed. Together, this year's crude and resublimed iodine imports are almost the same as last year's total.

ENZYMES — The price of enzymes used in starch processing have been increasing in 1986 because of currency fluctuations and a "truce" of sorts in the price war which had raged since the early 1980's.

Since May, Miles Laboratories, Novo Laboratories and Enzyme Technology Corporation have all raised prices for either glucoamylase or alpha amylase, or both. The most recent increase, for both products, came with Novo's late-October announcement of its 1987 contract prices.

Novo's prices stand at \$3.50 per liter for glucoamylase and \$1.75 per pound for alpha amylase. Miles carries prices of \$3.50 per liter for glucoamylase, \$4.50 per liter for alpha amylase, and \$3.25 per liter for industrial-grade glucoamylase. Miles also has two industrial-grade alpha amylase products, which cost \$2.20 per liter and \$4.40 per liter, respectively. Enzyme Technology, a wholly-owned subsidiary of Great Lakes Chemical Corp., prices glucoamylase at \$3.50 per liter.

Despite recent increases, however, suppliers are not satisfied. "The current prices are unacceptably low," complains a source. "There's been a price war among the companies. Now, some of that is relaxed. Everyone would like to see prices going back up." Another source agrees, commenting that "beginning in 1983, prices began to decline rather dramatically, and continued every year," until 1986. This year, say suppliers, profitability became too low to justify a price war.

Currency fluctuations have added more pressure to the market, claim suppliers. One source notes that his company supplements its domestic material with imported product, and that the falling dollar further exacerbated that market.

One source points out that when his company's prices peaked in the early 1980's they were, on average, 1 1/2 times greater than

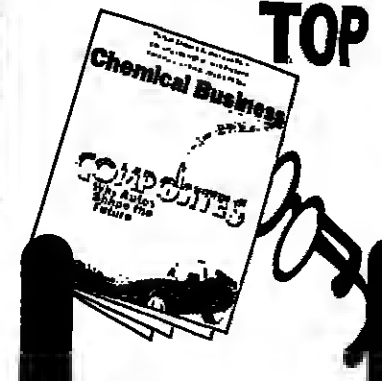
they were before this year's increases. In other source says that, in some cases, a company's prices halved.

Suppliers say there is still pressure for more increases in 1987. Even after current prices are announced, says a source, prices will probably continue to rise. Historically, contracts are signed on a yearly basis.

Demand is steady, between 3 and 5 percent. Suppliers note that demand grew rapidly about five years ago, but has since stabilized.

NIACINAMIDE USP — Rellly Tar & Chemical has joined the list of producers making niacinamide USP prices (CMR, 11/14/86, p. 22). Effective immediately, Rellly's net list prices are: \$9.50 per kilo for orders of 1,000 kilos and more; \$9.75 per kilo for orders ranging from 250 kilos to 999 kilos; and \$11.00 per kilo for orders under 250 kilos. These prices are about \$1.00 per kilo higher than previous quotes, a Rellly spokesman says.

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Du Pont Fined On TSCA Rule

In a settlement with Environmental Protection Agency's enforcement office, E.I. du Pont de Nemours & Co. has agreed to pay \$100,000 for violating the pre-manufacture notification rule of the Toxic Substances Control Act (TSCA).

The agency issued an administrative complaint in February against DuPont for manufacturing chemical substances, between November 1984 and April 1985, that were not listed on the TSCA Inventory of Existing Chemical Substances.

Section 5 of TSCA prohibits the manufacture or import of a chemical which does not appear on the TSCA Inventory unless the manufacturer notifies the EPA administrator at least 90 days before manufacturing or importing the substance.

EPA says the company failed to submit pre-manufacture notifications for these particular chemical substances.

The agency says it cannot identify the chemicals involved in the case because DuPont has declared them confidential business information under section 14 of TSCA.

Uniroyal, Enichem Unit to Form Venture

Uniroyal Chemical Company, Inc., and Enichem Elastomeri SpA (a subsidiary of Enichem SpA) have agreed to form an equally owned joint venture in Europe to manufacture and market Royalene EPDM Synthetic rubber utilizing Uniroyal Chemical Company technology.

The joint venture brings together Uniroyal "Royalene" EPDM technology with Enichem's manufacturing capability in Eu-

rope. "Royalene" is a registered trademark of Uniroyal Chemical Company.

Major uses of EPDM include automotive sponge, single-ply roofing membranes, automotive and appliance hoses, specialty and tube applications, impact modifiers for thermoplastic olefins as well as a variety of molded rubber products.

Existing European Enichem production facilities will be converted and expanded to produce the EPDM. Start-up is planned for early 1988 with initial capacity comparable with other major producers. The marketing efforts of the joint venture will be supported with technical service laboratories in Europe.

Biologics Rules Proposed by USDA

Department of Agriculture is proposing to establish rules for state approval of experimental veterinary biologics. The rules will allow state approval of experimental veterinary biologics shipped within the state where they are produced or out of the country.

The proposal establishes the criteria for accepting a state licensing program for veterinary biological products and manufacturers. A state would be required to identify each manufacturer and each product to be licensed by the state, and to provide a system of review and oversight.

"Recent amendments to the Virus-Serum-Toxin Act require federal and state approval before veterinary biologics researchers and license applicants can ship experimental veterinary biologics intrastate or out of the country," says Bert W. Hawkins, administrator of USDA's Animal and Plant Health Inspection Service.

"Prior to these amendments, experimental veterinary biologics in many cases could be shipped intrastate or exported without being licensed or approved by either a state or USDA," he says.

Bristol-Myers Granted Motion

Bristol-Myers Company says that a motion by McNeilab, Inc., a subsidiary of Johnson & Johnson, to set aside a Federal judge's earlier decision in favor of Bristol-Myers has been denied in the US District Court in Philadelphia.

In his written order, Judge Clifford Scott Green also granted Bristol-Myers company's motion to dismiss McNeilab's amended and supplemental complaint.

Judge Green had entered a decision on September 8, 1986, ruling in favor of Bristol-Myers Company in a lawsuit brought by McNeilab challenging advertising of the superiority of two "Nuprin" tablets over "Extra Strength Tylenol." McNeilab manufactures "Extra Strength Tylenol." Following a trial on the merits in August, the court found that McNeilab had not demonstrated that the Nuprin commercial was false or misleading and entered final judgment in favor of Bristol-Myers Company, dismissing the lawsuit.

In his earlier September 8 dismissal of the lawsuit brought by McNeilab, Judge Green said, "Because I find that two tablets is one of the authorized doses of Nuprin, I conclude that neither the Lanham Act nor the common law is violated by the commercial pointing out the superiority of Nuprin when taken in an authorized dose of two tablets."

Eastman Kodak Picks Headquarters

Eastman Kodak Company has selected Pennsylvania as the headquarters location for its Pharmaceuticals Division.

Kodak expects to relocate about 100 employees to the new location, which it expects

to be operational during the third quarter of 1987. Eventually, about 300 employees will occupy this interim site.

"Kodak's long-term objective is to create a pharmaceuticals business focused on prescription products, in-vivo diagnostics, and over-the-counter drugs," says Paul Baehr, general manager and vice-president of the division. "To support this effort, it is important to locate our headquarters in an environment that has become an established center for the pharmaceutical industry."

The company expects to occupy the facility at the Great Valley Corporate Center on an interim basis. Program expansions will require the division to construct a new permanent site with many additional employees in the greater Philadelphia area in the future.

Textile Imports Hit a New High

Imports of textiles and apparel for the first 10 months of the year hit an all-time high of 10.8 billion square yards, almost reaching the record level of textile and apparel imports for all of 1985, the American Textile Manufacturers Institute reported last week.

In figures released by the Department of Commerce, imports of textiles and apparel from January through October increased 19 percent over the same period last year. Imports of textiles alone increased 24 percent during this time.

In October, textile and apparel imports reached 888 million square yards, a 7.5 percent increase over October 1985. This is the highest import level for the month of October in history.

"The textile and apparel trade deficit for the first 10 months of the year reached another record level of \$17.8 billion. This is a 18.7 percent increase over the same period in 1985."

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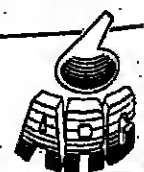
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PERFUMES & FLAVORINGS

Citronella Oil Prices Increase As Availability, Imports Drop

Citronella oil prices firmed last week in light of decreased availability and estimates that material production will remain low in the near future. Consumption continues unabated, sources report, and a tighter market is predicted.

Spot prices for Chinese, Indonesian and South American citronella oil increased 10 cents to 20 cents per pound last week to \$2.70 per pound, responding to greater increases for shipping prices. Quotes on current shipping prices range from \$5.30 per kilo, cost and freight New York, for South American and Chinese material to \$5.75 per kilo from resellers in Hong Kong and London.

"The biggest reason," says an essential oils broker, "seems to be the shortage out of China." An importer agrees, citing reports that Chinese farmers switched crops in the last year. "Local demand in China and low prices have caused farmers to leave citronella oil alone and plant higher yield items like pepper and cotton."

The oils broker also regards Chinese demand a factor in the international citronella oil pricing. "They are so low on material they must be consuming it internally because they had to renege on some contracts." Another broker says he knows of no such breaching of contracts but that less offers are coming from China. "Offers from China are so scarce they're almost impossible to get."

Another indication of lessening availability says one broker, is the low-volume level at which transactions have been made. "Sales have been done at very low levels, a rate of only 5 or 10 tons per purchase."

INDONESIAN CITRONELLA

Indonesian, or Javan, citronella oil has also been encountering problems in the US, according to industry sources, unrelated to the Chinese material but compounding the tightness of the citronella oil market.

Working against Javan citronella oil is the fact that it is already higher priced than the Chinese, South American or Ceylonese materials, causing it to be released to other countries rather than the US (CMR, 10/8/86, pg. 31). Also, according to an essential oils broker, "there has been some speculation that there's more water than normal in the Javan oil."

Another broker denies that water levels are above normal. "Since it is steam distilled, you always have a water content, but it has not varied to any great degree." Regardless of difference of opinion, he explains, offers are becoming so rare that any citronella oil on the market gets snapped up. "People are buying whatever they can get their hands on so they can run their businesses."

Imports in September, 1986 reflect the in-

creasingly restricted availability: 14,116 pounds compared to an August total of 270,605 pounds.

Sources are in agreement that a continued lessening of availability can have an impact as early as the first quarter of 1987. Considering citronella oil is one of the largest volume essential oils with applications from pesticides to feedstocks for other essential oils.

PRICES TRENDLINES

WEEK ENDING NOV. 28, 1986

CHANGES/UP

Aliphatic, Montanan, 2c. per lb.
Citronella oil, Chinese, 10-15c. per lb.
Citronella oil, Javan, 15c. per lb.
Citronella oil, South American, 45c. per lb.
Cumin seed, Turkish, 2c. per lb.
Cumin seed, 1987 delivered, 7-8c. per lb.
Eucalyptus chloridra, Chinese, 10c. per lb.
Lemon leaves, Turkish semi-select, 25c. per lb.
Litsea cubeba oil, 40c. per lb.
Oregano, Mediterranean, 5c. per lb.
Pepper, Muntok white, 8c. per lb.

CHANGES/DOWN

Cardamom, deodorized 10c. per lb.
Cassia, Indonesian A-C, 2-7c. per lb.
Cassia oil, Chinese 85%, 37-38 per kilo
Cloves, Madagascar/Brazilian, 5c. per lb.
Cloves, delivered, 2-10c. per lb.

PERFUMES INDEX

The Perfumes & Flavorings Index reflects the prices of 11 representative materials in this sector and the quantity of each supplied in 1985.

Nov. 28, 1986 71.10
Nov. 21, 1986 71.10
Oct. 31, 1986 71.10
Nov. 29, 1985 71.10

Chemical Prices Start on Page 36

ESSENTIAL OIL IMPORTS: SEPTEMBER

SELECTIVE STATISTICS FROM THE CENSUS BUREAU.

	SEPT. '86	AUG. '86	YR TO DATE	SEPT. '85
Bergamot..... lbs.	9,178	10,188	52,140	9,883
Bitter Almond..... lbs.	1,441	—	9,854	7,392
Cassia..... lbs.	4,905	28,118	30,084	2,444
Cedars..... lbs.	4,858	8,000	20,378	6,886
Cinnamon..... lbs.	22,057	—	74,799	200,510
Citronella..... lbs.	142,140	270,896	1,068,898	1,144
Citronella..... lbs.	863,423	123,185	990,417	—
Citronella..... lbs.	13,204	8,424	75,985	26,407
Citronella..... lbs.	86,730	74,074	601,286	8,843
Citronella..... lbs.	8,418	8,890	67,378	37,344
Citronella..... lbs.	27,884	388	113,094	10,811
Citronella..... lbs.	13,151	10,547	1,436,715	198,287
Citronella..... lbs.	124,576	88,408	121,912	164,515
Citronella..... lbs.	35,157	24,000	86,805	34
Citronella..... lbs.	82,014	132,883	7,735	—
Citronella..... lbs.	55	87	284,087	1,888,887
Citronella..... lbs.	33,888	20,775	2,309	11
Citronella..... lbs.	822,422	242,728	5,511,600	1,888,887
Citronella..... lbs.	54	132	86,822	31,887
Citronella..... lbs.	27,008	100,727	61,340	8,116
Citronella..... lbs.	13,095	14,821	221,920	—
Citronella..... lbs.	23,837	27,888	36,115	—
Citronella..... lbs.	13,338	1,818	77,880	13,375
Citronella..... lbs.	8,830	7,288	44,238	3,771
Citronella..... lbs.	2,208	4,410	30,167	1,463
Citronella..... lbs.	3,681	1,546	19,518	8,127
Citronella..... lbs.	4,853	2,882	19,518	8,127
Citronella..... lbs.	8,830	22,124	88,294	10,811
Citronella..... lbs.	8,846	7,024	—	—

PERFUMES & FLAVORS

According to industry sources, from the 1985 sales, and this has left the Chinese offers extended without takers. "Demand has not picked up demonstrably," says an essential oils importer. "Not a lot of material is being moved." Sources anticipate the cassia oil market will soften into December but then level off as demand returns.

CINNAMON BARK OIL — Sources say prices for cinnamon bark oil should firm in the next few weeks as reports of too little production are considered likely to affect production. Recent spot quotes reflect market uncertainty as some essential brokers list cinnamon bark oil (50 percent cinnamic aldehyde) anywhere from \$80 to \$150 per pound.

The monsoon season in Sri Lanka stretches from late July through September and if rainfall during this period is insufficient then production is cut back. "When the monsoon rains finally did come," says a representative of the Sri Lankan embassy, "they came very late and very weak." He adds that cinnamon oil production will also suffer from this dry summer.

An essential oils broker attributes the discrepancy in spot pricing for cinnamon bark oil less to anticipated shortfalls of material than to the wide range of quality on the market. "It depends on the quality," he says, "and the percentages of natural cinnamic aldehyde."

LITSEA CUBEBA OIL — Litsea cubeba oil shipping prices advanced last week for some of the same reasons citronella oil firmed. Prices went from \$4.90 per kilo cost and freight insured to over \$5.30 per kilo same basis.

"The local Chinese farmers opted out of this because of the low returns they had been getting," says an essential oils broker, explaining that other crops such as cotton yielded better profit margins. Another source suggests that the prices will continue to firm as the demand for litsea cubeba oil will be constant while the availability may decline.

SEEDS & SPICES

CLOVES — Spot prices for cloves from most points of origin slipped last week to 10c. per pound. Offers are reportedly being made at lower levels for 1987 delivery and the effect has been to soften the spot market. Prices for 1987 delivery had been as high as 12.35 per pound in mid-October, but have eroded due to reports of plentiful supply to the current levels of \$1.95 per pound. Spot prices fell from \$2.30 per pound for Madagascar and Brazilian cloves last week to 11.25 per pound. Prices for delivery in December, 1986 have declined 10c. to \$2.20 per pound.

The only cloves to remain untouched by the falling 1987 delivery prices are the Ceylonese hand-picked, which are holding steady at \$2.35 per pound.

Mobil Polystyrene

Continued from Page 3

may had not made a formal announcement of a price increase. Arco Chemical Company also has not made a price announcement for January.

Given the tightness in the polystyrene market, many producers are looking at ways to increase more product out of their production lines. Chevron, for example, is boosting line rates at its 440-million-pound-per-year plant at Marietta, Ohio. So far, the company reports, it has increased production rates for three of the plant's eight lines.

Flas is entering an "expansion-consolidation phase" involving the expansion of its Carville, La., plant and the consolidation of company's overall polystyrene capacity is expected to remain virtually unchanged, at 115 million to 120 million pounds annually.

With approximately 830 million pounds of polystyrene capacity, is looking at "incremental expansions," the company says. While Polysar, which recently acquired Monsanto's polystyrene business, is "at the point of trying to understand what we have," the company says. Polysar's US polystyrene

capacity now stands at an estimated 700 million pounds, with another 180 million pounds of capacity in Canada.

Huntsman plans to form a 50-50 joint venture with General Electric to complete construction and operate a new polystyrene plant in Seikirk, N.Y. Capacity figures haven't been disclosed, but Huntsman says the plant is expected to come on line in the first quarter of 1988.

Earlier this year, Arco bought an expandable polystyrene plant from Georgia-Pacific and the company is about finished with an expansion project for its "Dylark" styrene-maleic anhydride copolymer.

Most say extra capacity is needed to meet demand for polystyrene, but one of the smaller producers of the material hopes the industry is realistic about its expansion activities, noting the overcapacity troubles of the past.

While the market for polystyrene is strong now, this producer observes, extra capacity is scheduled to come on stream just when the business is likely to be in a downturn.



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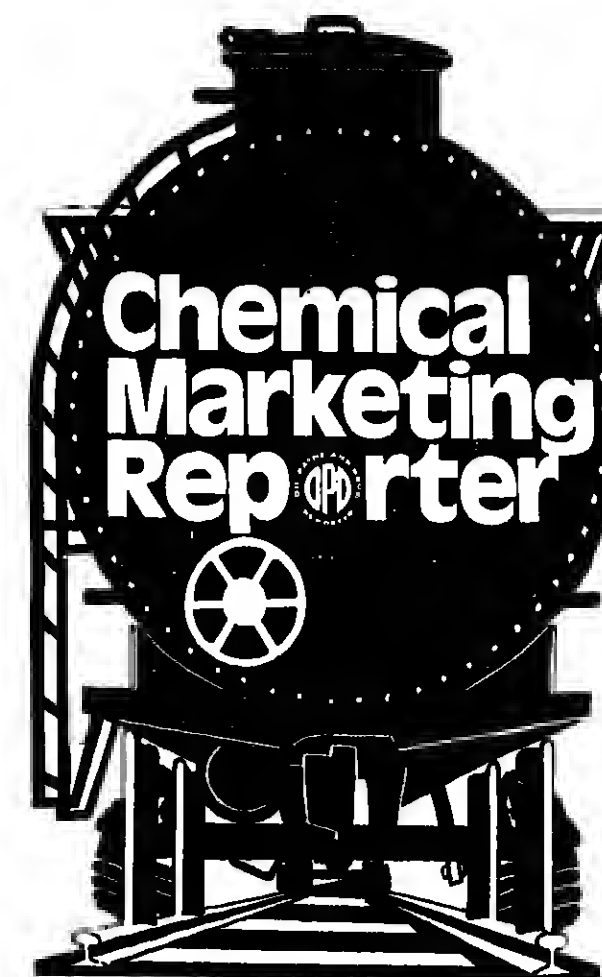
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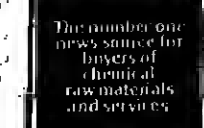
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Right-to-Know: Industry Faces Tougher Rates

If the chemical industry does not fully cooperate in implementing the community right-to-know provisions of the new superfund law, manufacturers will probably face even tougher requirements in the future, warns a congressman.

In a response to the Bhopal, India, toxic gas leak tragedy of 1984 and chemical plant leaks in this country, the new law requires large chemical makers and users to file public reports about the day-to-day release of hazardous and toxic substances from their plants during routine manufacturing.

The law also calls for better emergency

planning and response procedures to be followed following an accidental release and requires companies to file inventory forms specifying the amounts and location of hazardous chemicals at their plants.

The provisions allow for protection of trade secrets, a major industry concern, but chemical manufacturers say the right-to-know measures will be expensive and burdensome.

"If it doesn't work, there is going to be stricter regulation," Rep. Robert Wise (D-Va.), told members of the Synthetic Organic Chemical Manufacturers Association.

He said the final right-to-know provisions of the superfund law accommodate many industry concerns and he reminded SCAI that the measures originally approved by the House—and later dropped by the House—were a conference—contained far more extensive reporting requirements.

"I think the more balanced side won," Rep. Wise remarked. "The (House) proposals of this amendment smelled blood and were not willing to compromise. Every dry-cleaner in my district would have been covered, as we thought."

The House version also contained "mass balance" requirements which would have forced companies to report the amounts of chemicals they received, produced, consumed, used, stored, shipped and released into the environment.

Advocates of this measure, such as Rep. Bob Edgar (D-Pa.), and Gerry Sikoraki (D-Minn.), argued it was necessary in order to detect and closely monitor accidental leaks.

But the final version of the legislation calls for a study to determine the value of such reporting.

The House adopted the more stringent reporting requirements because it was presented as a yes or no vote on protecting public health and the environment, Rep. Wise explained. The provision was deleted by the conference committee.

If the chemical industry is perceived as being lax in complying with the new right-to-know rules, "I think you'll see some form of (mass balance requirements) back seat," Rep. Wise predicted.

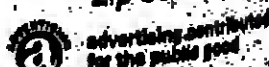
Arizona, SylvaChem In a Restructuring
Arizona Chemical Company and its subsidiary, SylvaChem Corporation, have restructured sales and marketing functions.

Ernest Spinner, formerly vice-president of sales, has assumed the additional responsibility of marketing.
He will be responsible for worldwide sales and marketing activities for all Arizona Chemical and SylvaChem product lines, except polyamides and epoxy curing agents. Lee C. Bower has been appointed manager of EPA and polyamide businesses.

In other appointments, Charles W. Cowley has been named national sales manager of commodities. Alexander J. Conle has been appointed marketing manager of commodity tea. Samuel M. Berkowitz has been appointed marketing manager of adhesive and sealants. Jack W. Daniels has been appointed manager of distributor sales and Richard J. Whitely has joined Arizona as manager of export sales.



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COATINGS & PLASTICS

PET Bottle Resin Market To Grow 20 Percent in '87

Demand for bottle grade polyethylene terephthalate (PET), a small but important part of the overall PET market, is expected to grow rapidly, producers say. By the end of 1987 they are expecting overall domestic bottle resin consumption to grow by almost 20 percent, with soft drink applications, which make up about 70 percent of the total market, growing 13 percent per year for the next five years.

Last year, total bottle polymer demand was 141 million pounds; this year, demand is expected to reach over 150 million pounds.

Producers have been expanding capacity, and expect to have expansion complete by 1988. Currently, they say, US capacity is close to 1 billion pounds. One producer estimates that debottlenecking projects have actually brought the total to 1.017 billion pounds.

Eastman Chemical Products Inc. is planning to bring 125 million pounds of new capacity on line by the first quarter of 1987, which should bring its total capacity to 625 million pounds. Both Goodyear and American Hoechst are said to be planning expansions, although actual amounts have not yet been disclosed.

PRICES HOLDING STEADY
Prices for the resin have held steady at last year's levels; prices in a few of the higher end markets have firmed, but commodity prices have fallen slightly. One producer gives an average selling price of 52c per pound for standard bottle-grade resin.

Currently, the industry is said to be operating at bottle grade total. Producers are not afraid of overcapacity developing in the long run, as new uses develop for the polymer. The resin is extremely versatile, producer reports; as one market analyst says, "growth has been limited only by a lack of new product ideas."

Within the soft drink bottling market segment, the 2-liter and 16-ounce bottles dominate. Other high growth applications include bottled water and alcoholic beverage packaging. The resins are currently being used in some wine-cooler packaging applications. Polyvinyl chloride, which is being used in water packaging applications, has not been taking any significant share of the market away from PET, producers report. New food packaging applications are also being developed.

Coca-Cola has begun to test market a 12-ounce plastic "PET-tainer" can to be used in place of aluminum. Although producers are still skeptical about the success of any aluminum replacement in soft drink packaging, on a large-scale basis, the "PET-tainer" project is expected to produce 100 million new PET cases by the end of the year.

Crystallizable PET, or CPET, is also showing great potential, producers say, particularly in oven trays, as a replacement for

coated paper and thermoset polyethylene. All producers are looking into this market, which is expected to double in size by the end of 1987, to between 40 and 50 million pounds. By 1990, producers feel this portion of the market could reach 150 million pounds.

PRIME PIGMENTS

CARBON BLACK — An article reporting Phelps Dodge's acquisition of Columbian Chemical Company, "Phelps Dodge Will Buy Carbon Black Producer," CMR, page 7, November 17, 1986, contained one error. Huber Corporation, rather than Colum-

PRICES TRENDLINES

WEEK ENDING NOV. 28, 1986

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics Index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Nov. 28, 1986	306.4
Nov. 21, 1986	306.4
Dec. 1, 1986	306.4
Nov. 29, 1985	306.4

Chemical Prices Start on Page 34

hian Chemicals, as stated in the article, acquired Phillips "Echoblack" plant in Orange, Texas this year. Columbian acquired Phillips' Hanover, West Germany plant, and took over its share of a "Sovaco" plant in the UK earlier this year.

PLASTICS ADDITIVES

ANTIMONY OXIDE — Asarco Inc. has cut antimony oxide prices for the third time since June. Through October, it lowered costs for the additive by a total of 15c per pound. On November 24, prices were cut an additional 10c per pound, with high tint material listed at \$1.25 per pound, low tint at \$1.30 per pound and ultra-pure at \$1.40 per pound.

Primary producers of the additive are maintaining prices at previous levels, with high tint material listed around \$1.50 per pound. Noting that Asarco is a byproduct, rather than primary producer of Sb₂O₃, they feel that the recent price cutting has been prompted by some internal corporate marketing decision, perhaps to liquidate excess inventories of the material, a byproduct of lead ore smelting.

Although they do not plan to adjust prices, Continued on Page 34

PLASTIC RESIN SALES & OUTPUT: JUNE

SPI'S COMMITTEE ON RESIN STATISTICS REPORTS.

	SALES AND USE (1,000 LBS)		PRODUCTION (1,000 LBS)	
	1986	1985	1986	1985
PHENOLIC RESINS:				
General resins (unmodified)	31,212	33,973	38,702	37,548
General resins	138,979	102,997	138,720	105,710
Phenolic and other varnish resins	115,277	104,768	114,048	104,658
Aluminum resins	238,406	222,981	235,506	222,698
Other	16,218	15,849	14,943	15,535
ACRYLIC RESINS:				
Acrylic Butadiene Styrene (ABS)	98,788	97,939	88,088	85,891
Polyvinyl chloride	N/A	11,851	N/A	1,556
Polyethylene glycol	917,804	807,589	810,970	840,988
Polyethylene glycol (density above 0.940)	817,472	540,875	687,123	685,078
Polyethylene glycol (density below 0.940)	739,089	644,582	739,881	728,412
Polyethylene glycol (SAH)	480,559	488,153	483,999	430,384
Polyethylene glycol	9,287	7,841	9,359	7,711
Polyethylene (total)	402,485	339,388	380,684	365,654



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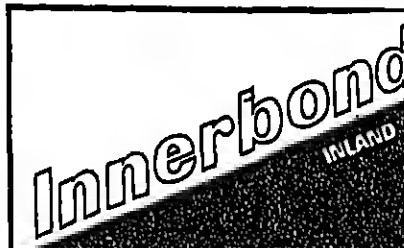
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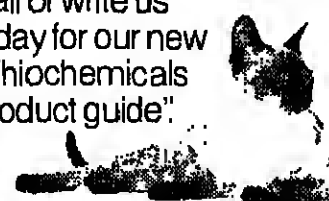
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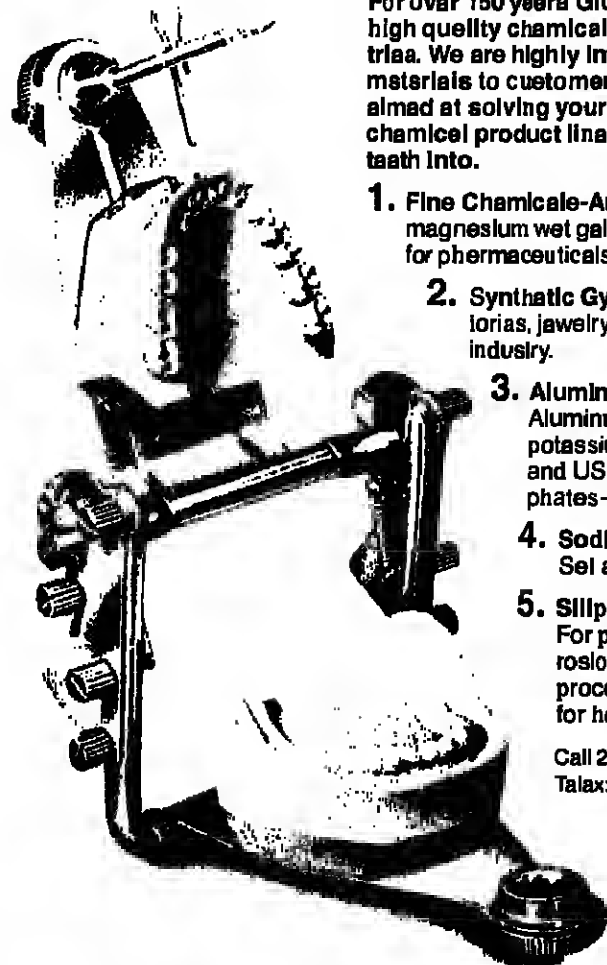
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KAL CHEMIE

COATINGS & PLASTICS

Continued from Page 31

producers complain that market prices have been softening gradually since June. During the first half of the year, the average market price was close to list, and high lint material stood at \$1.50 per pound. It is now selling for around \$1.40 per pound.

Part of this price erosion is a function of year-end slowdowns, they say. Finished goods imports, particularly from China, are also said to play a role in depressing prices. Producers disagree as to the extent of the Chinese import presence; one relates that imports have risen this year, while another says they have fallen slightly since last year. All agree, however, that Chinese material is having a definite impact on domestic pricing. Less imported material is coming in from the EEC, producers report, largely as a result of currency value shifts.

Off-lit discounts have become the norm for high volume customers, with 5 to 10 percent discounts common, producers say.

While selling prices have eroded, raw material costs are going up. Metal raw material test prices have risen 10 percent in the past four months, and supplies, while adequate, are tight.

While one producer feels that 1986 will be a strong demand year and expects the domestic market to reach 42 to 44 million pounds this year, most feel that the 1988 market will repeat last year's lackluster performance. Supplies of raw material from South Africa, Bolivia and China are adequate; more Chinese material is available this year, but producers say it is of questionable quality.

ORGANIC PEROXIDES — The Noury Chemicals Division of Akzo Chemie America will be raising both list and off-list prices for its lines of organic peroxide products effective January 1, the company announced last week. The 5 percent increase, needed to offset recent increases in labor, operating insurance and raw material costs, will affect prices for "Trigonox" peroxyesters and peroxyketals, "Perkadox" solid peroxydicarbonates, "Cadox" silicone pastes and dry benzoyl peroxide (BPO) formulations and "Cadet" powder grade BPO.

New prices for products purchased in quantities of 500 pounds or more are as follows: "Trigonox 29-B75," \$4.83 per pound; "Trigonox BPIC," \$7.35; "Trigonox F-C50," \$2.43; "Trigonox 97-C75," \$5.29; "Cadox TS-50," \$12.60; "Cadox BS," \$7.79; "Cadox PS," \$17.42; "Cadox BFF-50," \$2.83; "Cadox BTA," \$2.00; "Cadox BPO 78 Powder," \$9.20; "Perkadox 16," \$10.50. Prices for commodity liquid grades of BPO will not be affected.

Despite overcapacity in the BPO and methyl ethyl ketone peroxide (MEKP) markets, July price increases were successful. Prices for BPO have been depressed for some time, producers explain.

Overcapacity is less of a problem in the peroxydicarbonate market; industry production is said to be running at 80 to 85 percent of capacity.

PLASTICS MATERIALS

POLYPROPYLENE — Two major producers of polypropylene will increase market prices for the resin in January. Fina Oil & Chemical Company is raising prices for all

grades of "Fina" (formerly "Dypro") polypropylene resin by 3c. per pound, effective January 1. Similarly, Himont USA will increase prices for its "Pro-Fax" resins by 1c. per pound, effective January 5.

Demand has been exceedingly strong, producers report, and there has been no falling off of export levels.

Currently, capacity utilization rates are said to range between 95 percent and 98 percent of effective total. No capacity expansions have yet been announced, although Himont recently restarted some idled capacity. Generally, producers feel there is still enough capacity on standby to handle current demand.

POLYSTYRENE — Amoco Chemical Company and Mobil Chemicals Corporation will be raising prices for all grades of polystyrene by 3c. per pound, effective January 1, the companies announced last week. They join most other producers in the price initiative.

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Alcohol Reversal Is Seen Possible With New Drug

A drug that quickly reverses or prevents the intoxicating effects of alcohol is under investigation by researchers at the National Institute of Mental Health.

"We have a drug that appears to block some of the effects of ethanol," says Dr. Peter D. Suzdak, principle author of a paper to be published in the next issue of the journal *Science*.

He adds, however, that the synthetic compound neither lowers the levels of alcohol in the body nor affects other aspects of intoxication, such as respiratory depression or coma.

"The drug probably has many clinical implications," says Dr. Suzdak. "Using it, we may be able to find out what makes the alcoholic drink, the anti-inhibitory effects, anti-anxiety effects, and so on. If the compounds then block these reinforcing effects, we might have a drug that could be used to treat alcoholic patients."

The drug was developed in Europe by Hoffmann-La Roche as an agent to block the effects of its sedative diazepam, or "Valium." Work was halted when the company discovered other more efficient drugs for that use. Research resumed a year ago after scientists at the health institute noticed its effects on alcohol. They found that rats receiving a dose of the compound did not become intoxicated from a subsequent dose of ethanol. Also, rats given an intoxicating injection of alcohol sobered up within three minutes after getting the compound, currently known as Ro 15-4513.

BASF Earnings Seen Higher Now

BASF Group says third quarter earnings exceeded year earlier levels for the first time this year, but lower pricing for products, and currency fluctuations have contributed to an overall decline in the Group's sales and earnings for the first nine months of the year.

The company says its worldwide business declined in the third quarter "from a significant turnaround" in the first quarter, but its relationship with the US dollar and the low price of oil and gas.

However for the first nine months of the

year, sales for the BASF Group fell 5.7 percent to \$13.9 billion, while pre-tax profits dipped 12.7 percent from the first nine months of 1985 to \$965 million. Despite this the company has boosted capital expenditures by 14.5 percent in 1986 to \$781 million.

For BASF AG, the German operations of the BASF group, sales slipped 7.3 percent in the first nine months of 1986 to \$6.4 billion. Of that total, domestic sales were down 9.2 percent to \$2.4 billion, while exports from Germany slipped 8.1 percent to just under \$4 billion.

Expansions and acquisitions in North America, including the acrylic acid capacity expansion at Freeport, Tex., and the purchase of International Minerals & Chemical Corporation's oil and gas business, led to a 48 percent upturn in sales and a 8 percent increase in earnings for BASF Corporation, the company says.

Waste Data Report Is Offered by EPA

Environmental Protection Agency is making available a report summarizing data on non-hazardous solid waste activities nationwide that will be the basis for its report to Congress in November 1987 on the adequacy of current Federal solid-waste landfill standards.

The report includes information on the characteristics and management practices of solid wastes, as well as of land-disposal facilities and state solid-waste regulatory programs.

Also included in the report are data on industrial non-hazardous waste and information collected from states on municipal-waste landfill capacity problems.

Revlon Throws

Continued from Page 9

ing, said that until announcement that the bid had been dropped, the company had remained confident that it could obtain commitments to finance the transaction.

Almost immediately after abandoning the pursuit of Gillette, Revlon said that it had signed a definitive agreement with Playtex Holdings, Inc. for the acquisition of the Max Factor, Almay and Halsey cosmetics, fragrances and toiletries businesses for \$335 million in cash.

The transaction, which is expected to close in early December, is subject to the completion of Playtex Holdings' purchase from BCI Holdings, Inc. of its personal consumer products operations, which include the businesses being acquired by the Revlon company.

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OXYCHEM

An Index of weekly chemical market reports is on the back cover.

Adipic acid, resin grade, bulk, hopper cars, fr. equal.	57	-
bgs. 11, c1. fr. equal.	59	-
Agar USP, powd., 50 to 100 mesh, dms.	8.50	9.85
Alcohol, sym. C-8 to C-10, tanks, to b. works.	38	-
C-12 to C-18, tanks, divd.	57	59
C-14 to C-15, tanks, divd.	57	57
C-18 to C-19, tanks, divd.	80	-
Aldehyde, C-8, dms.	4.10	5.70
C-9, dms.	1.95	3.00
C-9, dms.	4.30	6.30
C-10 dms.	4.30	5.35
Algin (see Sodium alginate)		
Alkal base, dry, flaked, 110-lb. dms.	3.72	3.83
Alkal base prices tie higher W. of Rockies		
Altipso Gasetumetan / Honduran, bgs.	92	-
Jamaican, bgs.	1.05	-
Alty alcohol, tanks, L.O.B., Bayport, Tex.	90	-
Athy bromide, 500-lb. dms. 2,000 lbs. or more work.	5.50	-
Athy carbide, 25-lb. cts.	3.80	4.50
Athy chloride, tanks, L.O.B. works.	65	-
Athy cyanide, tanks, L.O.B. works.	5.40	6.90
Arnerol, oil, bitter (see Benzaldehyde)		
Almond oil, net. bitter, NF 1 & 2, bote.	3.50	3.60
swet.	1.24	1.60
Alone, C.O., co.	2.00	-
powd., c1.	2.20	2.75
Curaco, kgs.	2.60	-
powd., kgs.	3.00	-
Alolin, NF, dms.	6.00	6.70
Alum. ammo. alum, tech. gran. bgs, c1., 11, works	35.00	-
FCC powd., fiber dms, works 100lbs.	55.00	-
Alum. potassium, tech. gran. bgs, c1., 11, works	35.00	-
FCC powd., fiber dms, works 100 lbs.	55.00	-

a/alphee acid, followed amorph./amorphous AMP/American melting point amby./amylidrous AOAC/Association of Official Agricultural Chemists a./available phos- phoric acid approx./approximately ad./adificial ASTM/American Society for Testing & Materials	C/Centigrade cby./centboys c.o./cento centimeters CO/cento completely de- stured o.i./cent insurance weight C./centad cns./cans com./commercial cns./cans untreated cento/cento pure cya./centipede crys./crystalline c/cas see cans, cans cyl./cylinders	E/East e.o./end point equal./equalized exp./expressed ent./entirely	Ind./included Indus./industrial kg./kege l./lesvo lb./pound L./less carload L./less truckload liq./liquid m./meta m.s.p./mixed salina point mtr./microgram mtr./manufacture min./minimum moll./mollen m.p./melting point	o./ortho ord./ordinary oz./ounce P/phosphorus p./para Pac./Pacific pl./proof phos./phosphate photo./photographic pkgs./packages p.s./powdered prop./proprietary prod./producer p./pound pnt./purified pnt./purified redist./redistilled ref./refined	secs./seconds sp./specific gravity sp./specific vol./volume std./standard syn./synthetic tank/refined tank tech./technical tert./tertiary L./load ton/tonne to short of 2,000 pounds TV/television un./uncertainty L.W./kilograms U.S./United States U.S./United States U.S./United States	vis./viscosity V.V./varnish, stains & paints W/West wh./where, where W./water-white
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NOTE: A unit-ton is 1 percent of 2,000 pounds of the basis constituent or other standard of the market. The percentage figure of the basis constituent multiplied by the unit-ton price gives the price of 2,000 pounds of the constituent.

ABBREVIATIONS

MEDICAL MARKETPLACE

E/east a.o./and point equid./equalized exp./expressed extr./extracted	Incl./included indus./industrial Kgs./kings L./leaves lb./pound L.O.L./less carload L.I./less truckload lb./liquid	o-/ortho ord./ordinary os./ounce P/phosphorus P-para Pa./Pacific p./proof ph./phosphate photo./photographic pkgs./packages pow./powdered prod./produced pt./point puv./purified put./put	secs./seconds sp.g./specific gravity ship./shipment soln./solution std./standard syn./synthetic tanks/tankers tankers tech./technical ther./therapy lit./crushed ton/tons to short ton of 2,000 pounds TVI./temporary volume very expensive W./tankwagon
m./mile ft./feet l.b.s./free on board f.p./freezing point ht./height	m-mets m.s.p./mixed online point mg./microgram mtls./manufactures min./minimum mol./mollen m.p./melting point	redist./redistilled reld./refined ref./refinery resub./resublimed ret./returnable S/especially denatured a.d./single distillate ss./Southwest sw./secondary	U.S.P./United States Pharmacopoeia vis./viscosity VMA/P./varnish/nature & painture W/West WW/westhouse ww./water-white
g./gamme gal./gallon g.p./general purpose gran./granular gr./ground lb./initial boiling point imp./imported	N/hydrogen n./normal nat./natural neu./neutral N.F./National Formulary No./number Nom./nominal		

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the market.
Percentage figure of the base constituent multiplied by the unit-ton price shown in Chemical Marketplace Record gives the price of 2 million pounds.

[illegible][illegible]

Carbon black, low structure, bulk, c.i. works,	lb.	240	2
bags, c.i. works,	lb.	270	2
Intermediate, super-abrasion,	lb.	25	-
bgs., c.i. works,	lb.	28	-
super-abrasion (SAF), bulk, c.i. works,	lb.	31	-
bgs., c.i. works,	lb.	4060	-
Intermediate (SAF), bulk, c.i. works,	lb.	210	-
bgs., c.i. works,	lb.	240	-
Carbon black, thermal, medium, bgs. works,	lb.	30	3
bulk, c.i. works,	lb.	32	3
Carbon black oil, large, i.o.b. Gutt refineries,	bbbls.	10.50	12.8
i.o.b. W. coal refineries,	bbbls.	10.50	12.8
Carbon disulfide, 35-40% min. C. I.		429.00	
Carbon tetrachloride, C.P. consumers, dms., c.i. fr. atld.,	lb.	36	-
tech. dms., c.i. fr. fr. atld.,	lb.	31	-
tank import (dms. 4.000 160000) fr. atld.,	lb.	24	-
Carboxymethyl cellulose (see CMC).			
Cardamom oil, NF, bots,	lb.	60.00	-
Cardamom, Ecuador, Guatemalan,	lb.	80.90	-
green, Guatemalan, bgs.,	lb.	5.75	7.5
Carbame, No. 40, NF, bulk, 100-lb. tote or more, divd.,	lb.	135.00	140.0
Carbame, water, Polyethylene, No. 1, yellow, bgs. ton lots,	lb.	1.95	2.0
Ceera, No. 1, yellow, bgs., ton lots,	lb.	1.75	1.9
North Country, No. 2, refined, bgs., ton lots,	lb.	1.55	1.9
Carbame, wax, North Country No. 3, centrifuged bgs., ton lots,	lb.	1.10	-
North Country, No. 3, refined, bgs., ton lots,	lb.	1.30	1.4
Powdered carbame, wax, 20 to 100 mesh, 20c per lb. higher,	lb.		
b-Carotene, vegetable oil, semi-solid consumers, 400,000 A units per gram,	lb.	32.75	-
b-Carotene, liq. in vegetable oil, 400,000 A units per gram, 33 lbs. or more,	lb.	50.00	-
b-Carotene, dry, bgs. 15, 3000 A units per gram 50-lb. cns. lb.,	lb.	28.85	-
d-Carvone, 25-lb. dms., syn.,	lb.	48.00	-
i-Carvone, 25-lb. dms., syn.,	lb.	7.00	7.2
Carosin, imp., acid-precip., grd., 30-mesh, Australian, edibles, same basis c.i. fr. atld.,	lb.	1.45	-
Australian, edibles, same basis, c.i. fr. atld.,	lb.	1.365	-
Cassia oil, 303 mtl, vme, dms., fr. atld., 100% basis,	lb.	3.70	-
Cassa, Konjhi "A" bgs.,	lb.	1.95	1.2
Cassa, Konjhi "B" bgs.,	lb.	1.38	1.0
Cassio oil, Chir, dms.,	lb.	18.50	1.3
Castor oil, raw, No. 1, Braz. 10-lb.,	lb.	32.2	30.0
USP 5-8 dms.,	lb.	74	-
distilled, 5-8 dms.,	lb.	78	-
vacuum, 5-8 dms.,	lb.	75	-
dehydrated, bodied, tanks,	lb.	74	-
dehydrated, unbodied, tanks,	lb.	65	-
Castor oil, acids dehydrated, dms.,	lb.	1.10	-
nitrolic acid,	lb.	79 1/2	83
Castor pomace, bgs., container load, i.o.b., Miami, Fla.,	ton	154.00	-
Castorine, nyl, dms.,	lb.	11.00	35.00
syn. dms.,	lb.	11.00	-
Catechol, CP, 45-lb. dms., 50-238 dms., i.o.b.,	lb.	7.93	-
tech. bgs., i.l., same basis,	lb.	3.71	-
Caulic potash (see Potash, caustic).			
Caustic acid (see Soda, caustic).			
Cedarine oil, dms.,	lb.	17.50	-
Cedarside oil, Texas, dms., cns., i.o.b.,	lb.	1.75	2.50
Cedro,	lb.	1.75	-
Cedrol, prime dms.,	lb.	5.25	-
Cedryl acetate, diet. dms.,	lb.	4.25	5.30
Cedryl seed, Indian, bgs.,	lb.	48	-
Cedryl seed oil,	lb.	37.00	-
Celulose acetate, powd.,	lb.	1.30	-
Celulose acetate, butyrate, powd., 17% butyl content,	lb.		
divd. E.,	lb.	1.75	-
38% butyl content, bgs., divd. E.,	lb.	1.69	-
50% butyl content, bgs., divd. E.,	lb.	1.61	-
62% butyl content, bgs., divd. E.,	lb.	1.63	-
Celulose gum, pure, High vis., bgs., 24,000-lb. tote or more works, i.o.b., Hopewell, Va.,	lb.	1.80	1.70
std. low vis., i.o.b., Hopewell, Va.,	lb.	1.80	1.90
11-lb. Ho., Hopewell, Va.,	lb.	1.35	-
Cetum concentrate Ceo, 50-lb.,	lb.	5.40	-
Cetum hydroxide 90% CeO ₂ dms., works,	lb.	4.20	1.60
77% CeO ₂ dms., works,	lb.	5.40	-
Cetum oxides, optical grade, bgs., 50-lb. tote or more, divd.,	lb.	1.85	1.80
Cetylalcohol, dry, cns., i.o.b., E. I. Chalk (see Celulose carboxylate).	lb.	.68 1/2	1.27
Chamomile flowers, Hungarian, c.i. fr. atld.,	lb.	4.95	-
Roman, ca.,	lb.	2.79	3.00
Chamomile oil, blue, Egyptian,	lb.	545.00	-
blue, Hungarian,	lb.	370.90	-
Chenopodium oil, NF, cns.,	lb.	16.00	-
Chenopodium oil, dry, cns., atld.,	lb.	13.50	-
Chili (see Pepper, red).			

WEEK ENDING NOV 28, 1986

Chlorinated paraffin, Zone 2 prices are 1c. per lb. higher and Zone 3 prices are 2c. per lb. higher and f.f. drum prices

Chlorinated rubber, 5 to 20 cps, bgs.		
l, divd.	lb.	1.66
40 cps, bgs., 1, divd.	lb.	1.82
120 cps, bgs., 1, divd.	lb.	1.90
300 cps, bgs., 1, divd.	lb.	2.75
Chlorine, tanks single units works,		
l.o.b., frt. equiv.	ton	165.00 200.00
Chloroacetic acid, mono, high purity,		
100% 99% bulk f.o.b.		
works.	b.	.56
2-Chloro-4-aminothiophene, tech., liq.		
dms., c.i., 1, l.o.b. works	lb.	1.89
o-Chloroaniline, liquid, dms., c.i., f.o.b.		
works.	lb.	1.63
tanks, same basis	lb.	1.55
p-Chloroaniline, solid, c.i., 1, f.o.b.		
flats, dms., c.i., same basis	lb.	1.70
o-Chloroaniline, hydrolyzed, 100% pure,		
works.	lb.	2.45
p-Chlorobenzaldehyde, dms., 2,000		
lbs. or more, works.	lb.	3.84
o-Chlorobenzonitrile, dms., 100% pure		
works	lb.	3.80
p-Chlorobenzonitrile, same, 500-b.		
lots or more, works.	lb.	1.89 2.25
Chloroform, tech. tanks, dwt. divd.	lb.	.34%
tech. consums. tanks, dwt.	lb.	.34%
NF tank, 100% pure, 200		
gals. divd.	lb.	.85%
4-Chloro-4-nitroaniline, paste, com-		
modity basis, dms., 1, f.		
o.b.	lb.	3.06
powd., same basis	lb.	3.15
4-Chloro-2-nitroaniline, paste, 172.5		
mol. wt., commodity basis,		
dms., 1, f.o.b.	lb.	2.25
powd. same basis	lb.	2.70
o-Chlorophenol, dms., c.i., frt.		
equiv.	lb.	2.00 2.40
p-Chlorophenol, dms., c.i., frt.		
equiv.	lb.	1.25 1.70
Chlorophenol, coml., 1,500-b. cysls, 1, f.o.b.		
works.	lb.	1.25
Chlorosulfonic acid, tanks, frt.		
equiv.	lb.	1.6%
p-Chlorotoluene, tanks, tanks		
works.	lb.	1.00
Chloroacetalder, dry, 40,000-000 units		
per gram, kilo lots	kg.	24.00
Choline nitrate, crys., 85% mol., 50		
kilo dms., f.o.b. Springfield,	lb.	8.90
Kilo dms.	lb.	8.90
Choline chloride, feed grade, 70%		
aqueous, 1 c, 100, dms.	lb.	.28
60% dry supplement.	lb.	.39
Choline chloride, 60% dry supplement,		
bulk, 1000 car, 100, dms.	lb.	.36
bgs., 50,000 lbs. min.	lb.	.40
Choline chloride, pharmaceutical, 60		
kilo, lots, f.o.b. Springfield,	lb.	5.00
Kilo.	lb.	5.00
Choline hydrochloride, 50% soln.,		
50 kilo lots, f.o.b. Springfield,	lb.	6.00
Kilo.	lb.	6.00
Chrome green, CP extra light, bgs.		
divd. E. of Rockies	lb.	1.68
light, bgs., same basis	lb.	1.70
medium, bgs., same basis	lb.	1.72
extra deep, CP, same basis, 7	lb.	1.74
Chrome oranges, CP, bgs., divd. E. of		
Rockies	lb.	.63
Chrome yellow CP bils., divd. E. of		
Rockies	lb.	.99
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.09 1.18
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.18
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.25
Chromium acetate, soln., 75% dms.,		
800-2,000 lbs. min.	lb.	.40
Chromium fluoride, dms., 1, f.		
works.	lb.	.81
Chromium nitrate, dms., 1, l.o.b.		
10% metal soln., 500-b. lbs. same	lb.	1.45
basis	lb.	.74 .88
Chromium oxide, hydrated, 50-lb.		
bgs., c.i.	lb.	5.50
pure bgs. c.i.	lb.	5.80
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.56 1.85
Chromic alcohol, 25-lb. cans		
works	lb.	1.60
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	.95 1.00
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.05 1.00
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	2.75
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	5.50 6.85
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	3.19
Chromic acid, 20% soln., f.o.b. of		
Rockies	lb.	1.19
Citric acid, USP, anhyd, gran. 250-b.		
dms., 1, l.o.b.	lb.	.86
Citric acid, anhyd, acid, 25-lb. higher		
than 25-lb. cans	lb.	2.60
Citronella oil, Java, dms.		
works	lb.	2.85
China, dms.	lb.	2.50
Citronella, 25-lb. cans		
works	lb.	6.85 7.40
Citronella, 25-lb. cans		
works	lb.	5.50
Citronelly acetate, dms.		
works	lb.	6.85 6.50
Citronelly formate, 25-lb. cans		
works	lb.	6.85
Civet, afr. bol.		
works	lb.	20.00
Clay, ball, dom air floated, bgs.		
Tenn.	ton	400.00
Tenn.	ton	49.00
Clay, crushed, moisture-repel-		
lent, bulk, c.i.,		
Tenn.	ton	24.00
Clay China (see Kaolin)		
Clearers, naphtha, 140° flash tanks,		
New Jersey or New York,		
divd.	gal.	1.15
Clove leaf oil Indonesian, reg. dms., 100		
Madagascar, reg.	kg.	3.40
Clove bud oil	kg.	26.00
Clove bud oil	kg.	26.00 26.00
Clove Bud Oil	kg.	26.00
Clove Bud Oil	kg.	26.00
Clove Bud Oil	kg.	26.00
Clove Bud Oil	kg.	26.00
Clove Bud Oil	kg.	26.00
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Cuberoil, seed, 5%, rotenone, basis		
60-lb. bgs, 11, works	..	.80
Cumene, bulk, contract, 10 b.	..	1.14 1/2
Cumin seed, Indian, bgs	..	.85
Vanilla, bgs	..	.98
Cyanuric acid, dms, c.l., 11, frt. equald.	..	1.16 1.87
Cyclotran acetylate, 50% min. side-hydrate content, dms	..	4.85
98.6%, dms	..	7.35 9.20
90-92%, dms	..	7.85
Cyclohexane, bulk, barges, wks.	..	.9825 .98
Cyclohexanol tech, tanks, f.o.b. works	..	.52 .68
Cyclohexanone tech, tanks, f.o.b. works	..	.55 1/2 .58
Cyclohexanone, dms, c.l., 11, frt. equald.	..	.585
Cyclohexylamine, tech, tanks, works	..	.85
D		
2,4-D acid, tech, 50-lb. bgs, c.l., 11, works, frt. equald.	..	1.10 1.25
2,4-D butyl ester, tech, 55-lb. dms, c.l., works, frt. equald.	..	1.30
2,4-D butyl ester, tech, 55-lb. dms, same basis	..	1.25
2,4-D dimethylamine salt, t.c., 11, works, frt. add.	..	8.05
Decyl alcohol, mixed isomers, tanks, dms	..	.32
perfume grade, dms	..	.76
Deformated phosphata (tricalcium), feed grade, 18% P, c.l., bulk, f.o.b. works	..	195.00 228.00
Densurex alcohol, ethyl, CD, C, tanks, dms	..	1.87
NOTE: Tankcar sales require written authorization by Alcoa and Tobacco Tar Division.		
Denatured alcohol, ethyl.		
SD28, tanks, dms	..	1.81
SD3A, tanks, dms	..	1.78 1/2
SD23H, tanks, dms	..	1.88
SD23H, tanks, dms	..	1.88
SD29, tanks, dms	..	1.83
SD30, tanks, dms	..	1.72 1/2
SD31, tanks, dms	..	1.86 1/2
Denatured alcohol, ethyl, brisane formula		
SD40, tanks, dms	..	1.83
ethyl, optional formula, SD40, tanks, dms	..	1.82 1/2
For ethyl alcohol on above formulas, prices are 12c. per gallon higher.		
West Coast divd. prices are the same as Eastern price except in Idaho, Oregon and Washington where a differential on tankcars is maintained.		
Desoxyepinephrine hydrochloride (See Methamphetamine hydrochloride)		
Detergent alkylate, straight chain doctylbenzene, tanks, barges, f.o.b.	..	.45
Dextrin, coarse candy bark, paper bgs, c.l., works	..	28.04
whirl, paper bgs, c.l., works	..	27.43
Dextrose, anhyd, 100lb, bgs, c.l., dms, New York	..	41.10
USP special, 100-lb., 100 lbs, dms, New York	..	48.50
Dextrose, hydrated, 100 lb, bgs, c.l., dms, New York	..	24.26
Western zone	..	25.80
Dioctadecyl alcohol, tech, bgs, tanks, dms	..	.52
Dioctyl, flavor grade, dms	..	9.25 15.00
Diammonium phosphate, fert. grade, min. 16% N, 48% P, bulk, c.l., tanks, f.o.b. works	..	140.00 145.00
Diammonium phosphate, feed grade, 18% N, 20% P, bulk, c.l., f.o.b. 11, works	..	240.00
ton bgs, same basis	..	260.00
Diammonium phosphate, tech, bgs, c.l., 11, works, frt. equald.	..	52.50
food grade, bgs, c.l., 11, same basis	..	57.75
2,4-D-tert-amylphenol, 100 lbs, dms, c.l., 11, works	..	1.04
tanks, works	..	.97
Dialdehyde yellow, OT, (yellow 14), dms	..	7.00 9.00
c-Diamlthane dihydroxy acid, MW 244, dms, 11, divd.	..	4.25
2,6-D-tert-Butyl-p-Cresol (see Butylated hydroxytoluene)		
Dibutyl fumarate, tanks, f.o.b.	..	.77
Dibutyl maleate, tanks, f.o.b.	..	.83
Dibutyl phthalate, tanks, works	..	.54
Dibutyl sebacate, tanks, works	..	1.72 1.81
Dibutylamine, dms, c.l., divd.	..	1.12
tanks, same basis	..	1.08
2,6-Dichloroaniline, 100 lbs, works	..	2.00
fused, dms, works	..	1.80
3,4-Dichloroaniline, tech. 88%, sold, dms, c.l., 11, f.o.b. works	..	1.48 1.51
c-Dichlorobenzene, tech, bgs, c.l., 11, divd.	..	.52
tanks, same basis	..	.46
98% rtd, dms, c.l., same basis	..	.54
p-Dichlorobenzene, grad. 99.9%, dms, 11, f.o.b., frt. equald.	..	.51
tanks, 11, same basis	..	.43
2,6-Dichloro-4-nitroaniline, dms, 10,000-lb. or more, works	..	3.30
Dichlorophenylacetic acid (see 2,4-Dichlorophenylacetic acid)		
Dichlorophenylamine, dms, c.l., 11, f.o.b.	..	1.35
tanks, same basis	..	1.25
Dichlorophenyl phosphate, bgs, c.l., 11, divd.	..	1.25
Dicyclopentadiene, high-purity, 97-99%, tanks, works	..	.35
Dieldrin, tanks, frt. add.	..	.34
Dieldrinamine, butyl sulfate, tanks, frt. add.	..	.41
DDVP (see Dimethyl dichloro-2-propyl phosphate)		

Diethyl carbonate, tankwagons, f.o.b. works	1.46	-
Diethyl ethenolamine, CP dms., c.i.	-	-
tanks, dms.	1.18	-
Diethyl ethenolamine tech. 82, per b. lower.	1.10	-
Diethyl oxalate, dms., c.i., f.o.b. works	1.80	-
Diethyl phthalate, tanks, f.o.b. works	1.96	36
odorless cosmetic grades, f.o.b. works	1.97 ¹	-
Diethyl sulfate, tanks, f.r. ald. E.	58 ²	-
Diethyl thiopurase, dms., c.i., t.i.	-	-
works	2.48	-
Di-2-ethylhexyl adipate (see Diethyl adipate)	-	-
Diethyl toluamide, 95-97% min. meta isomer, dms., f.o.b. works	2.75	-
N,N-Diethyl-N-methylidene isoc. f.r. dms., c.i., f.o.b.	3.18	-
tanks, same basis	3.10	-
Diethylamine, dms., c.i., dms.	1.15	-
tanks, same basis	1.02	-
N,N-Diethylaniline, dms., c.i., f.o.b. works	1.83	-
tanks same basis	1.76	-
Diethylbenzene, tanks, f.o.b. works	98	-
Di-2-ethylhexyl adipate (see Diethyl adipate)	-	-
Di-2-ethylhexyl phthalate (see Diethyl phthalate)	-	-
Olethylene glycol monobutyl ether, dms., c.i., f.r. ald. E.	65	-
tanks, f.r. ald. E.	57	-
Diethylene glycol monoethyl ether, dms., c.i., f.r. ald. E.	84	-
tanks, f.r. ald. E.	56	-
Diethylene glycol monomethyl ether, dms., c.i., f.r. ald. E.	62	-
tanks, f.r. ald. E.	84	-
Olethylene glycol monobutyl ether acetate, dms., c.i., dms. E.	80	-
tanks, dms. E.	72	-
Diethylene glycol monoethyl ether acetate, dms., c.i., f.r. ald. E.	80	-
tanks, f.r. ald. E.	72	-
Diethylene triamine, tanks, f.o.b. works	1.50	1.81
Diethylenetriamine pentasulfate acid pentasulfate salt solution, tank- car/truck/trucks, f.r. equalized	45	-
Diglycol USP, tanks, f.o.b. works	2.80	3.00
Oligoyl laurate, dms., ton lots	32 ¹	-
Diglycol stearate, dms., ton lots	82	73
Dihydrazine sulfate, tanks, works	1.10	1.25
Dihydroxypropylene sulfide, bulk lots, f.o.b. works	48.00	-
Dihydroxypropylene sulfide, 50-55% aq. solution, f.o.b. works	40.00	-
Di-isobutyl ketone, tanks, dms.	80	-
Di-isobutyl phthalate tanks, dms. E.	55	57
Di-isobutylane, tanks, f.o.b. works	37	-
Diisobutyl phthalate, tanks, dms.	40	40 ¹
Diisobutyl phthalate, tanks, dms.	49	-
Di-iso-octyl azelate, tanks, dms. E.	98	107
Diisopropyl alcohol, tanks, f.o.b. works	1.00	-
Di-isopropylamine, dms., c.i., f.r. ald. E.	88 ¹	-
tanks, same basis	89 ¹	-
Diisopropylamine, dms., c.i., dms.	1.17	-
tanks, same basis	1.07	-
Dizuril 3,3-bispropionene, dms., f.r. ald. E.	1.88	8.25
Oil oil, USP, dms.	15.80	-
Dimethyl antranilate, dms.	9.95	-
Dimethyl benzyl carboxylate, 25% lb. dms.	6.80	-
Dimethyl carbonate, dms., f.i., f.o.b. works	1.80	-
Dimethyl dichlorovinyl phosphite, 85% aq. sol., dms.	1.60	1.90
Dimethyl ethenolamine, anhyd., dms., c.i., dms. E.	1.15	1.10
tanks, dms. E.	1.07	1.30
Dimethyl ether, aerosol grade, f.r. ald. E.	38	-
Dimethyl phthalate, tanks, f.o.b. works	66	-
Dimethyl sebacate, tanks, f.o.b. works	2.48	2.68
Dimethyl sulfate, f.r. dms., c.i., f.o.b. works	57	-
tanks, f.o.b. works	45	-
Dimethyl sulfate, tanks, works	59	-
Dimethyl stearate, tanks, f.o.b. works	78 ¹	-
Dimethylsuccinates, bulk f.o.b. works	80	-
Dimethylamine, 28% aq., tanks, f.r. equalized, 100% basis	83 ¹	-
40% aq., tanks, f.r. equalized, 100% basis	83 ¹	-
anhyd., tanks, f.r. equalized, 100% basis	84 ¹	-
N,N-Dimethylamine, f.i., f.o.b. works	1.11	-
N,N-Dimethylamine, f.o.b. works	57	-
tanks, same basis	49	-
2,4-Dinitrophenol, tons/lot, f.o.b. works	1.92	-
Dinitrochloroacetic acid, CP, bgs.	6.80	-
Dms. E. of Rockwell	6.80	-
2,4-Dinitrochlorobenzene, crystallized at 47° f.i., f.o.b. Charlotte, N.C.	98	-
2,4-Dinitrophenol, 280-lb. drums, f.o.b. Charlotte, N.C.	1.95	-
Dinitrotoluene, m.b., tech. f.o.b. works	30	43
2,4-Dinitrotoluene, dms., c.i., f.o.b. works	1.25	-
tanks, works	41	70
Dioctyl adipate, tanks, f.r. ald. E.	89	104
Dioctyl azelate, tanks, dms. E.	80	-
Dioctyl phthalate, tanks, f.o.b. works	1.47	-
Dioctyl sebacate, 25% tanks, f.o.b. works	1.13	-
Di-1,4-dioxane, tanks, f.r. ald. E.	1.21	-
tanks, same basis	1.42	-
Diopenterythritol, bgs., c.i., t.i., dms.	1.21	-
Diopentene steam-dist., tanks, f.o.b. works	36	36
Fla. works	36	36
Diethyl terephthalate, dms., tanks, f.o.b. (see Tere acid oil)	-	-
Dioctylhydramine hydrochloride, USP, dom., 1,000-lb. lots, f.o.b. works	20.00	24.00
Diphenyl, 99.95% bgs., c.i., f.o.b. works	74	-
99.95% bgs.	80	-

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chloride, sewage grade, 100-particulate basis, f.o.b. works, tank	176.00	255.00
eric nitrate, 50% aq. soln., f.o.b. lb.	.84	-
eric oxides, tech., gran, 50-lb. ctns., f.o.b. works,	1.85	-
eric oxides (see Iron Oxides)	-	-
ic phosphates, FCC (insoluble powder), 100,000-lb.	1.10	1.15
ic pyrophosphate, soluble, purified, 50-lb. ctns.,	1.11	-
ic resins, precip., 8.75% Fe, dms., ton lots f.r.t., add. ....	.46	-
ic sulfates, partly hydrated, 100-lb. p.s.-c.i. works,	141.00	-
ic bulk, works,	117.00	-
ic ammonium citra. NF, brown, green gran. 100 lb. dms., 2,000 lb. min., f.o.b. shipments pt.	2.00	2.85
ic per pound purchase for shipping W. of Denver	-	-
ic-ammonium oxalate, fine gran, 250-lb. dms., 1-l. f.o.b. works, .....	.42	-
ic hydroxyethylene diamine, acetic acid, industrial grade, sodium salt, 40% Fe, t.c., 1-l. f.o.b. works, .....	.55	-
ic agricultural grade, acidulated, 5% Fe, t.c., 1-l. f.o.b. works, .....	.84	-
ic ferrous fluoborate liq. conc., dms., 1-l. f.o.b. works, liq. equiv. ....	.84	-
ic ferrous gluconate, NF, 1-l. works, dms., divd.	2.25	-
ic ferrous naphthalene, liq., 8% Fe, dms., divd.	1.17	-
ic ferrous sulfates, moist, bulk, 1-l. f.o.b. works,	30.00	-
ic heptaphenyl gran, bulk, 1-l. f.o.b. works,	145.00	150.00
ic monohydrate, gran, bulk, 1-l., f.o.b. works,	170.00	180.00
ic USP, powder, 400-lb. dms., .....	.46	-
ic chval, 250-lb. dms.,	10.00	-
ic of Canada dms.,	12.75	-
ic Siberia, dms., .....	.29	-
ic ket-ol, refd., alkali, tanks, c.i., .....	.32	.36
ic light-colored dms., .....	.34	-
ic tanks, .....	.25	-
ic tahmei, dom., menhaden, 50% protein grn. bulk, f.o.b. Atlantic port,	285.00	-
ic f.o.b. Gulf port,	290.00	-
ic imp., Chilean, 65% protein min., bulk, c.i., 1-l. ex. wheat, f.o.b. Atlantic and Gulf ports,	285.00	-
ic fluoboric acid, dms., 1-l. works, liq. equiv. ....	.70	-
ic fluorocarbon, No. 11 tanks, tanks, dms., .....	.57	.54
ic No. 12, tanks, same basis, .....	.68	.74
ic No. 12, bulk, same basis, .....	.15	.16
ic No. 13, bulk, same basis, .....	.89	.93 3/4
ic No. 114, bulk, same basis,	1.02	1.08
ic fluosilicic acid (see Hydrofluosilicic acid)	-	-
ic formaldehyde, 37% methanol free (uninhibited) dms., .....	.088	.0905
ic 44-45% (1% methanol) tanks, divd., .....	.1015	.1085
ic 37% (inhibited 7% methanol) tanks, .....	.0945	.1025
ic 37% (inhibited 11-15% methanol) tanks, divd., .....	.1055	.1060
ic formalde, tanks, f.o.b., .....	.38	-
ic dms., same basis, .....	.44	-
ic formalic acid 50% tanks, f.o.b., .....	.38 1/2	-
ic 95% dms., c.i., works, .....	.51 1/2	-
ic fructose, crystal, 18,000 kilos or more, .....	.80	1.03
ic fenchic acid, acid grade, bgs., 1-l. f.o.b. works, .....	.75 1/2	.77 1/2
ic tech. grade, bgs., 1-l., f.o.b. liq. equiv., .....	.82 1/2	-
ic Furfural, tanks, f.o.b. Cedar Rapids, Iowa, and Bala, Pa., .....	.76	-
ic Furfuryl alcohol, tanks, f.o.b. Memphis, Tenn. and Omaha, Neb., .....	.72	-

CHEMICAL PRICES		
WEEK ENDING NOV 28, 1988		
bone, extracted, green, jelly-		
grams, bgs, c.i., f.o.b.		
95 polygrams, bgs, c.i., f.o.b.	.86	-
5 polygrams, bgs, c.i., f.o.b.	.78	-
14 polygrams, bgs, c.i., f.o.b.	.77	-
34 polygrams, bgs, c.i., f.o.b.	.79	-
52 polygrams, bgs, c.i., f.o.b.	.87	-
10 polygrams, bgs, c.i., f.o.b.	.83	-
6 polygrams, bgs, t.i., f.o.b.	.80	-
35 polygrams, bgs, t.i., f.o.b.	.85	-
84 polygrams, bgs, t.i., f.o.b.	.90	-
92 polygrams, bgs, t.i., f.o.b.	.95	-
32 polygrams, bgs, t.i., f.o.b.	1.00	-
51 polygrams, bgs, t.i., f.o.b.	1.05	-
93 polygrams, bgs, t.i., f.o.b.	1.10	-
15 polygrams, bgs, t.i., f.o.b.	1.15	-
7 polygrams, bgs, t.i., f.o.b.	1.20	-
76 polygrams, bgs, t.i., f.o.b.	1.25	-
11 polygrams, bgs, t.i., f.o.b.	1.30	-
44 polygrams, bgs, t.i., f.o.b.	1.35	-
77 polygrams, bgs, t.i., f.o.b.	1.40	-
tartric acid, 99%+ dms, 100-lb.		
lots, trt. add.	8.85	-
carfene, nat., rel., USP, CP 89%+		
tanls divd.	8.94	-
USP, CP, nat., 98%, tanks, divd.	8.74	-
syn. 96%, tanks divd.	8.94	-
syn. 95.5%, tanks divd.	.91	-
chine (see Aminoacetic acid)		
cereryl guaiacolate, 100-lb. fib. dms.		
(c.i.)	14.50	-
colic acid (see Hydroxyacetic acid)		
boil. 40% aoln., bulk, tanks,		
divd.		
acetylcholine, Fla, dms.	44 1/2	-
Call, dms.	3.00	-
Israel.	3.00	-
aphite, amorph, powd., bgs, dms.		
ex whse.	.18	40
crystl., 88-93%, powd., bgs, dms.		
ex whse.	.30	60
aphite, crys., 90-92%, powd., bgs,		
dms, ex whse.	.40	75
95-88% powd., bgs, dms, ex		
whse.	.60	90
aphite, amorph, crys., 97% and up,		
powd., bgs, dms, ex		
whse.	.80	120
rasptra, flake, No. 1, 90-95%, bgs,		
dms, ex whse.	.55	75
No. 2, 90-95%, bgs, dms, ex		
whse.	.55	75
reses (See Oleo, Fat & Waxes market report)		
reses oil (See Lard oil)		
ad, tech., 500-# dms, 24,000lb.		
Conn., i.o.b. Wellington,	2.70	-
min., i.o.b.	3.75	-
alcohol oil dms.		
mer gum, edible, bgs, c.i., f.o.b.		
ship 1 lb.	.50	.75
indust., bgs, high viscosity, c.i.,		
same basis.	.50	.85
nitrophenol, dms.	8.00	9.25
smack oil (see Spruce oil)		
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.55	-
95%, tanks, f.o.b. Houston, Tex.	1.07	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.18	-
95%, tanks, f.o.b. Houston, Tex.	.85	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.43 1/2	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.42	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.55	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.89	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.80	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.83	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.01	1.15
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.12	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.50	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.32	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.75 1/2	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.60	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	30.00	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	10.25	11.30
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	9.70	10.70
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.25	.28
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.54	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	1.81	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	7.50	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.85	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.80	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.	.39 1/2	-
nitrophenol, indus., tanks, f.o.b. Beaumont, Tex.		

CHEMICAL PRICES

WEEK ENDING NOV 28, 1981

WEEK ENDING NOV 28, 1986

Pentachloroethene, dry cleaning grade, dstr., tanks, chyd.	lb.	28½
Industrial, grade, consumers, tanks.	lb.	28½
Pentacene dms.	lb.	.31
Pentamethylenediamine, 50% a.s., 100-lb. drums	lb.	2.65
Permanent red 2B, (red 44), calcium salts, dms., frt. add.	lb.	5.25
Perborates, same basis.	lb.	5.25
Perborates, f.o.b.	lb.	5.25
Perchloric acid, 70% a.s., 100-lb. drums	lb.	5.00
Petroleum, USP, snow white, dms., c.I., rel'y.	lb.	.375
rel'y.	lb.	.310
tanks, rel'y.	lb.	.310
Petroleum, USP, light white, c.I., rel'y.	lb.	.375
tanks, rel'y.	lb.	.370
Petroleum, USP, light white, tanks, rel'y.	lb.	.305
USP, cream, dms., c.I., rel'y.	lb.	.365
tanks, rel'y.	lb.	.30
USP, soft yellow, dms., c.I., rel'y.	lb.	.360
tanks, rel'y.	lb.	.265
USP, amber, dms., c.I., rel'y.	lb.	.545
tanks, rel'y.	lb.	.280
Petroleum pitch (see Asphalt, petroleum)		
Petroleum, 60-65% sulfur content, c.I., H.M.W. bulk, works.	lb.	.49½
M.M.W. same basis	lb.	.48
L.M.W. same basis	lb.	.48
Prices for 5% asphalt content 2c per lb. lower on above		
Phenacetic acid, USP, 200-lb. drums.	lb.	2.20
1,000-lb. lots, dms.	lb.	2.20
100-lb. drums, 1,000-lb. lots, dms.	lb.	2.22
lots, f.o.b. works	lb.	2.00
Phenobarbital, USP, dms., 500-lb. tanks, f.o.b. works	lb.	18.00
Phenobital-sodium, NF, 500-lb. tanks, f.o.b. works	lb.	27.50
Phenol, 50% a.s., 100-lb. drums	lb.	25
p-Phenolsulfonic acid, 85% a.s., dms., c.I., f.o.b. works	lb.	.84
tanks, same basis	lb.	.58
Phenothiazine, industrial, grade, 50-lb. bags, c.I., f.o.b. works	lb.	2.33
purf. grade, same basis	lb.	2.69
Phenyl acetate, dms., 100-lb. drums, f.o.b. works	lb.	1.04
Phenylacetic acid, pure cryst., 25-lb. drums	lb.	4.50
dl-Phenylalanine, dms., 25-lb. lots	lb.	84.00
l-Phenyl-3-carbonylpyrazole-5-one, 200-lb. tanks, dms., f.o.b. works	lb.	3.45
m-Phenylenediamine, cast, dms., 100-lb. tanks, f.o.b. works	lb.	2.07
o-Phenylenediamine, flaked, dms., 100-lb. tanks	lb.	3.25
p-Phenylenediamine, flaked, dms., 100-lb. tanks, f.o.b. works	lb.	4.00
Phenylglycidyl ether, USP, 100-lb. lots or more	lb.	175.00
Phenylglycidyl acetate, dms.	lb.	3.35
p-Phenylenediamine, 85% a.s., 100-lb. drums	lb.	2.10
p-Phenylenediamine, 85% a.s., 100-lb. drums, f.o.b. works	lb.	1.50
Phenylglycidyl ether, 25-lb. drums	lb.	5.50
Phenylhydrazine, 99% min. dms.	lb.	3.50
l-Phenyl-3-methyl-3-pyrazole-one, 25-lb. lots dms., f.o.b. works	lb.	1.80
o-Phenylenediamine, 85% a.s., 100-lb. drums	lb.	1.35
p-Phenylenediamine, 85% a.s., 100-lb. drums, f.o.b. works	lb.	1.85
Phenylpropanediol hydrochloride, 24-lb. drums	lb.	24.00
Phenylpyridine, purif. cryst., dms.	lb.	2.75
tech. cryst.	lb.	2.25
tech. E. 50% a.s.	lb.	2.77
Phosgene (red 50), dms., tri. alk.	lb.	1.85
Phosgene, 1-ton ret. cyls., 5 to 9-cyl. quantities	lb.	.55
Phosphate rock, 14% and pebble, run of mine washed, 66-68% b.p.i. bulk c.I. mshs.	ton	23.15
same, Tampa, same basis	ton	28.00
Phosphoric acid, cont. and grades, 75% tanks	ton	29.00
80% tanks	ton	31.00
85% N tanks, f.o.b. works	ton	33.50
Food grade prices \$2.00 above tech. grade.		
Phosphoric acid, agricultural grades, 52 to 55% a.s., f.o.b. works	ton	3.10
super, min. 70% a.s., same basis	ton	3.45
Phosphoric, white, same basis, f.o.b. works	ton	1.00
Phosphoric, white, same basis, f.o.b. works	ton	.81
Phosphorus oxychloride, tanks, tri. alk.	ton	.40
Phosphorus pentasulfide, 100-lb. tanks, setlers	ton	50.00
Phosphorus pentoxide, dms., 100-lb. tanks	ton	45.00
Phosphorus sesquisulfide, dms., c.I. works	ton	.82
Phosphorus sesquisulfide, dms., c.I. works	ton	.38
Phosphorus trichloride, dms., c.I. works	ton	.40
tanks, works	ton	.35
Phthalic anhydride, flake, c.I., dms.	ton	.30
molten, tanks, same basis	ton	.27
Prices 1-1½¢ per lb. higher on West Coast		
Phthalimide, flake, works	ton	.65
Phthalocyanine blue, ton, red shade, 100-lb. lots, 5 to 8 p.p.m. of Fe	ton	8.45
green shade, same basis	ton	9.30
resnated, blue, same basis	ton	8.10

Phthalocyanine blue toner, water dispersible, same as . . . lb.	9.45	17.30
Phthalocyanine green toner, all grades, bibs., frt. std. E. of Rockies . . . lb.	8.30	14.00
Phthalocyanine green toner, all grades, bibs., same basis . . . lb.	8.65	8.45
Phthalysulfacetamide, dms., 600-mlb. lots . . . kds.	2.81	-
Picoline, red, mixed, 25-lb. cts. . . c.t.	2.81	-
Picric acid, pure paste, 25-lb. cts. of dry basis, i.o.b. Charlotte, N.C. . . lb.	8.00	-
tech. paste, 25-lb. dms., 1-lb. dry basis, i.o.b. Charlotte, N.C. . . lb.	5.00	-
Pigment green 8, bgs. . . lb.	2.20	-
Pipecarboxylic acid, USP, dms. . . lb.	1,500.00	2,000.00
Pimento oil, dms. . . lb.	15.90	-
Pimento leaf oil, dms. . . lb.	47.00	53.00
Pine oil, 80% min. alcohol content, bulk, i.o.b. works . . . 100lbs	60.00	68.00
dms., c.t., 1, . . . lb.	100	150
p-Phenol, perfume grade . . . kds	1.82	-
tech. grade . . . lb.	1.18	23
p-Phenol, perfume grade, tanks . . . lb.	2.30	-
tech. grade . . . lb.	2.35	40
Piperazine, anhyd., dms., 1-lb. std. E. . . lb.	1.80	-
Piperazine citrate, 35%, dms., 1,100-lb. lots, frt. std. . . lb.	2.25	2.35
Piperazine dihydrochloride, 25% dms., 1-lb. frt. std. . . lb.	2.00	-
Piperazine hexahydrate, 44%, dms., 1,100-lb. lots, frt. std. . . lb.	1.80	-
Piperazine phosphates, 42%, dms., 1-lb. . . lb.	1.80	-
Piperidine diast. 88% min. dms., c.t., 1, works . . . kds.	8.92	-
Pipecarboxylic acid, dms., 1-lb. . . lb.	8.00	-
Pipecarboxylic acid, dms., 1-lb. . . lb.	476.00	-
Polycarbonate resin, pellets, nat., 1-lb. frt. std. . . lb.	1.84	1.88
Polyester resin, unsaturated, g.p., o-ethanol, bulk, tankers, frt. std. . . lb.	51	53
isophthalic, same basis . . . lb.	56	62
Polyethylene resin, high-density, blow molding, g.p., hopper cars, frt. std. . . lb.	44	52
Injection molding, g.p., hopper cars, frt. std. . . lb.	48	46
extrusion, g.p., hopper cars, same basis . . . lb.	47	46
wire and cable, nat., hopper cars, same basis . . . lb.	54	65
wire and cable, black, same basis . . . lb.	56	75
Polyethylene resin, low-density, film resin, hopper cars, frt. std. . . lb.	35	36
clarity film, hopper cars, frt. std. . . lb.	35	37
pellet extrusion film, hopper cars, same basis . . . lb.	35	-
extrusion coating, hopper cars, same basis . . . lb.	38	42
g.p., hopper cars, same basis . . . lb.	37	36
Polyethylene fiber, low-density g.p. resin . . . lb.	38	40
blown film resin . . . lb.	40	43
film resin . . . lb.	40	46
Polyethylene resin, low-density, extrusion molding, g.p., hopper cars, same basis . . . lb.	46	46
line wire, CATV, power cable, . . . lb.	70	1.15
wire and cable, black, same basis . . . lb.	60	90
wire and cable, XLPE low-voltage, 14% carbon black, same basis . . . lb.	68	70
wire and cable, jacking, black lb. . . lb.	80	80
Polypropylene sulfide, USP, bulk, 60-billion units, . . . million units	52	-
Polyoxymethylene, sintered, extrusion, 1000-lb. lots, works . . . lb.	73	-
Polyoxymethylene sorbitol triacetate, dms., 2,000-lb. lots, works . . . lb.	73	-
Polypropylene resin, homopolymer, g.p., nat., 1-lb. frt. std. . . lb.	45	46
copolymer, impact, nat., same basis . . . lb.	50	53
high impact, same basis . . . lb.	53	59
Colored material, per lb. higher for each grade . . . lb.	-	-
Polypropylene resin, crystal, nat., hopper cars, frt. std. . . lb.	48	-
impact, nat., hopper cars, same basis . . . lb.	51	-
highest impact, nat., hopper cars, same basis . . . lb.	62	-
expandable beads (EPS), pigging grade, 1,000-lb. lots . . . lb.	89	-
modified same basis . . . lb.	73	-
vinyl alcohol, fully hydrolyzed, medium viscosity, bgs., 1-lb. chd. . . lb.	1.00	1.00
partial hydrolyzed, medium viscosity, bgs., 2,000-lb. lots . . . lb.	1.05	-
Polyvinyl chloride resin, g.p., homopolymer dispersion, bgs., 1-lb. chd. . . lb.	50	-
g.p. suspension, bulk, same basis . . . lb.	58	-
pipe grade, bulk, same basis . . . lb.	57	-
film grade, bulk, same basis . . . lb.	47	47
Polyvinyl chloride resin, g.p., copolymer dispersion, bulk, same basis . . . lb.	58	58
g.p. copolymer suspension, same basis . . . lb.	45	47
Polypropylene resin, bgs. . . lb.	59	-
Turkey, bgs. . . lb.	63	-
Potash agricultural (see Potassium sulfate) . . . lb.	13.00	-
Potash, caustic, liq., 45% basis, tanks, 100 lbs. . . lb.	18.08	-
reg. flake, 88-92%, 400-lb. dms., c.t. works E. . . lb.	42.35	-
Potassium carbonate, tech. gran. bgs., c.t. works . . . lb.	90	1.3
Potassium bicarbonate, USP, gran. . . lb.	31%	-

Potassium bichromate, gran., 400-lb. dms., c.i., l.i., works.....	.48	—
Potassium bichromate, tech., dms., l.i., works, fr. equal.....	.45	.48
Potassium bitartrate, NF, gran., purif., dms., c.i., l.i., works.....	.90	1.20
Potassium borohydride, powd. dms., 100-1,000 lbs., works.....	18.00	20.00
Potassium bromate, gran., powd., 200-lb. dms., c.i., l.i., works.....	1.08	—
Potassium bromide, NF, gran., dms., c.i., l.i., works.....	1.12	—
Potassium carbonate, liq., 47% K_2CO_3 tanks, l.w., work.....	14.80	—
dms., c.i., l.i., works.....	20.85	—
calcined, 99-100% K_2CO_3 , hopper cars or trucks.....	32.50	—
bgs, c.i., l.i., works.....	55.20	—
dms.....	35.40	—
Potassium carbonate, gran., purif., 400-lb. dms., 5-dm. lots.....	.40	.48
Potassium chlorate, crys., dms., c.i., l.i., works.....	.14½	—
powd., dms., c.i., works.....	.30	—
purif., gran., 325-lb. dms., l.o.b. shipping point.....	.40	—
Potassium chloride, chemical grade, 99.35% ACS, purif., 200-lb. works.....	105.00	—
USP crys. dms.....	1.12	—
USP gran., dms.....	.87	—
USP powd., dms.....	.87	—
Potassium chloride (see Potassium muriate)	—	—
Potassium chromate, purif., crys., dms., works.....	.57	—
Potassium citrate, NF, gran., 200-lb. dms., fr. std.....	.93½	—
Potassium cyanide, 20,000-lb. lots or more, l.o.b., works.....	1.32	—
Potassium dichromate (see Potassium bichromate)	—	—
Potassium fluoroborate, tech., dms., c.i., l.i., works, fr. equal.....	1.40	1.42
Potassium fluoride, anhyd., dms., l.i., works.....	1.98	—
Potassium gluconate, dms., l.i., f.a.b. Price W. or Danner & Co., purif., 100-lb. works.....	1.45	—
Potassium gumbo, chloride, 300-lb. dms., 300 lbs. or more fr. equal.....	2.10	—
Potassium hydroxide, tech. (see Potash, caustic)	—	—
Potassium iodide, USP, pellets, 100-lb. dms., c.i., l.i., works, fr. equal.....	1.31	1.33
Potassium iodide, USP, gran., crys., 100-lb. dms., c.i., l.i., works, fr. equal, ACS grade truckload.....	10.72	12.39
Potassium-magnesium sulfate, std., bgs, works.....	59.00	—
beats 40% K_2SO_4 and 55% MgSO_4 , bulk, work.....	57.00	—
Potassium metasilicate, gran., dms., l.i., works.....	.44	—
Potassium muriate, 50-62.4% min. K_2O , std., bulk, c.i., fr. equal, l.o.b. Canada.....	52.00	63.00
soluble, fine std., l.o.b.....	53.50	54.60
Seak.....	57.00	58.00
gran., l.o.b. Seak.....	58.50	59.50
Potassium nitrate, frt. grade, std., 50-ton c.i., dwd. SE.....	287.00	284.00
prisd.....	277.00	274.00
tech.....	470.00	—
bgs, c.i., min. 60% water dwd.....	2.54	—
Potassium oxalate, neutral, tech., fine gran., powd., 300-lb. dms., fr. equal.....	1.01	—
Potassium persulfate, 100-lb. dms., same basis.....	1.08	—
Potassium persulfate powder 15c. per lb. higher.....	.78	—
Potassium perchlorate, dms., c.i., l.i., works.....	1.08	—
Potassium permanganate, free flowing, bulk, hopper trucks, works.....	1.08	—
50-lbs., same basis.....	1.20	—
150-lb. dms., same basis.....	1.17	—
Potassium permanganate, USP, 50-lb. kgs., works, c.i., l.i., works.....	1.98	—
Potassium persulfate, 225-lb. dms., 24,300 lbs. or more, plant.....	78.80	—
c/i same basis.....	72.50	—
Potassium pyrophosphate tetrahydrate, bgs, c.i., l.i., works, Fr. equal.....	63.75	64.00
liquid, bulk, works.....	48.00	49.50
Potassium salicylate, USP, gran., 200-lb. dms., 2,000 lbs. or more, works, fr. std.....	1.62	—
USP powd., 300-lb. dms., 2,000 lbs. or more, same basis.....	1.42	—
Potassium silicate, soln., 28-30.2 Ba, 2.2 ratio, l.i., f.i., works.....	18.80	25.80
dms., c.i., l.i., works.....	26.05	—
Potassium silicate, 40-40.5 Ba, 2.1 ratio, l.i., f.i., works.....	32.05	—
40-40.5 Ba, 2.1 ratio, dms., c.i., l.i., works.....	32.05	—
Potassium silicate, electronics grade, 30-30.4 Ba, 2.1-2.2 ratio, l.i., f.i., works.....	28.10	—
dms., c.i., l.i., works.....	33.10	—
solid or glass, 2.15 ratio, dms., c.i., l.i., works.....	53.30	—
solid or glass, 2.5 ratio, dms., c.i., l.i., works.....	45.86	—
"Ratio" includes percentage by weight of SiO_2 divided by percentage by weight of K_2O	—	—
Potassium silicofluoride, bgs, c.i., l.i., fr. equal.....	.11½	.15
Potassium sulfonate tartrate, NF, gran. or crys., dms., c.i., l.i., works.....	.80	1.20
Potassium sorbate, l.i., dms., dwd., l.o.b. works.....	2.50	3.10
Potassium stannate, dms., frt. a/c, l.o.b. works.....	N.A.	—
Potassium sulfate, agricultural grade, ma. 80% K_2O std., bulk, c.i., l.i., works.....	150.00	160.00
Potassium sulfate, gran., purif., 400-lb.		

Aluminum tetraborate, gran., bgs., c.I. works.			
alum., same basic, dms., lb.		1.10	-
Potassium tetraborate powder 16oz. per ton higher		1.16	-
Potassium tetraborate, 100 lb. crystal, 225 lb. dms., 5-dm. lots.		4.01	-
tech., cryal. dms., lb.		4.82	-
Potassium titanate, dms., c.I. works.			
Potassium-titanium fluoride, tech.		714	-
dms., 11. works, frt. equivd.		124	159
Potassium-dicoronium fluoride, tech. dms., 11. works, frt. equivd.			
Prednisone USP, dms., 5 kilos or more		79	-
Prednisolone acetate, USP, dms., 5 kilos or more		1.03	-
Prednisolone, anhyd., USP, dms., 5 kilos or more		1.12	-
Procaine hydrochloride USP, anhyd. c.I. grade, dms., 2,000 lb. lots, frt. allo.		4.98	573
Proclinal hydrochloride, USP, ampule grade, dms., 1,000-lb. lots, frt. allo.		4.85	580
Propionaldehyde, tanks, f.o.b. tech.		359 1/2	-
Propionic acid, syn., pur., tanks, dms., E.			
- lb.		33	30 1/2
- N-Propyl alcohol, tanks, dms., lb.		53 1/2	-
- N-Propyl alcohol, tanks, dms., lb.		42	44
- N-Propyl glycol, dms., 100 to 2,000-lb. lots, dms.		11.50	-
- tech., 500 kilos, f.o.b.		10.38	-
- tech., 500 kilos, f.o.b.		10.80	-
Propyl paraben (see N-Propyl-p-hydroxybenzoate)			
Propyl thiosulfate, dms., 50-kilo lots or more		65.00	-
- N-Propylene, dms., c.I., dms.		75	50
- Propylene, polymer grade, f.o.b. Tex. and La. Gulf Coast points, lb.		17 1/2	-
- chemical grade, same basis		15 1/2	41
- Propylene glycol, indus., tanks, f.o.b. U.S.P. tanks, f.o.b. E.		43	44
- Propylene glycol monomethyl ether, tanks, dms., lb.		48	-
- Propylene oxide, tanks, f.o. works, frt. equivd.		47 1/2	-
- Pyrimid seed, USP powd. bgs.		1.60	175
- Pumice, dms., fine, f.o.b., ton		27.00	-
- "medium, 2-3-1 1/2 bgs., 10-ton lots		30.00	-
- coarser, 2 1/2 bgs., 10-ton lots		30.00	-
- Pumice, imp., fine, f.o.b., ton		28.00	-
- "lois f.o.b. East Coast, ton		28.00	-
- "medium, bgs., ton lots, f.o.b. East Coast		35.00	-
- coarser, bgs., ton lots, f.o.b. East Coast		30.00	-
- Pyrazolone rad. (red 3B), dms., works.		13.00	15 1/2
- Pyrethrum flowers, fine gr. 0.8% pyrethrins, ton lots, frt. allo.		1.91	-
- Pyrethrum, purif., 20% pyrethrins, dms., works.		37.50	27 1/2
- Pyridine, red, 2-dog., c.I. works		5.90	-
- dms., 500 lbs.		5.70	-
- Quinac acid, same basis		5.00	-
- Pyridine hydrochloride, USP, 100 kilos or more, dms.		36.00	-
- Pyrilene, Canadian (see 48-50) long ton		4.80	5 1/2
- Pyrogallol acid (see Pyrogallol)			
- Pyrogallic acid, 100-lb. dms., 1,000-lb. lots, dms.		13.70	15 1/2

Quassia chips			.57
Quinacridone maroon, dms., frt. eid.		27.00	35 1/2
- red, dms., frt. allo.		24.25	32 3/4
- violet, dms., frt. allo.		24.50	33
- Quinacridone, frt. allo.		2.00	2 1/2
- Quinidine sulfate, USP, 1,000-cz. dms., 2,000 cz. or more, oz.		4.30	425
- Quinine hydrochloride, NF, 1,000-cz. dms., 2,000 cz. or more, oz.		2.45	250
- Quinoline sulfate, USP XVII, 1,000-cz. dms., 2,000 cz. or more, oz.		2.30	230
- Quinolone, dms., 1-lb. frt. equivd.		1.49	-
- tanks, same basis		1.43	-

R salt tech., 304 material wt.			212
Racemethionine, USP	50-250 lbs.		6.50
- 500-1,000 lbs.		6.50	
- 250-500 more lbs.		6.50	
- 500 or more lbs.		1.25	
- Reaped seed, 98% rhin., c.I., 1-lb. lots		58 1/2	37 1/2
- Resorcinol, tech., bgs., lb.			
- Resuscitator serpentine root, powd. bgs., dms.		22.00	-
- Resveratrol, 40 (see Carmine No. 40)			
- Red precipitate, (see Mercuric oxide, red)			47 1/2
- Resorcinol USP, cryal. bgs., works		3.96	-
- Resorcinol, dms.			
- Resorcinol USP, cryal. dms. 50 lbs. or more, works		6.35	-
- Resorcinol, dms., same basis		1.90	-
- Resorcinol monosulfate, dms., 1,000 lbs. or more			
- Rhodamine red toner, molybdenum PMA, dms., works		8.25	-
- tungstenate, PTMA, dms., f.o.b. works		11.00	14 1/2
- Rhodolite, 25-lb. dms.		15.25	50
- syn. dms., 25-lb. dms.		61	70
- Rhubarb root, frt. equivd.			
- Rhubarb root, frt. equivd.		54.90	50
- Rhubarb root, frt. equivd.		54.90	50
- Ribitol, USP, 100-lb. dms.		26.00	-
- Ribitol, USP, 100-lb. dms.			

[illegible][illegible]

Sodium orthosilicate, tech., anhyd.	34.50	—
bgs., c.i., works..... 100 lbs.		
Sodium orthosilicate, tech., hydrated		
flake, dms., c.i., works..... 100 lbs.	27.46	—
bgs., c.i., works..... 100 lbs.	28.25	—
Sodium oxalate, 99%, bulk, c.i., works.....	26.48	—
Sodium pentachlorophosphate, beads		
c.i., 30,000-lb. min..... lb.	57	—
bgs.....	59	—
Sodium perborate (see Sodium borate)		
Sodium perborate, tetrahydrate, tech.		
bgs., c.i., l., works..... lb.	32½	36
Sodium persulfate, 225-lb. can, 24,000		
lbs. more, l.i., works..... lb.	63½	—
55-lb. bags, same basis..... lb.	62	—
Sodium phenobarbital (see Phenobarbital, Sodium)		
Sodium phosphates, powd., dms., c.i.,		
works..... 100 lbs.	76	—
Sodium phosphate, anhyd., dms., c.i.,		
tech., bgs., c.i., l., works, frt.		
equiv..... 100 lbs.	54.50	—
food grade, same basis, 100 lbs.	57.50	—
Sodium phosphate, monobasic, tech.,		
same basis..... lb.	66.75	—
food grade, same basis..... 100 lbs.	69.75	—
tribasic, tech., same basis..... 100 lbs.	52.25	52.75
food grade, same basis..... 100 lbs.	63.25	—
chocolate, same basis..... 100 lbs.	61.50	—
cryst., tech., same basis..... 100 lbs.	50.50	—
cryst., food grade, same basis.....		
100 lbs.	35.50	—
USP, distd., powd., bgs., dms.,		
works..... lb.	19	2
Sodium plomate, tech., paste, 200-lb.		
lbs. dms., dry basis, divd..... lb.	5.50	—
Sodium propionate, dms., 2,000-lb. or		
more, l.i., frt. equiv..... lb.	5.4	—
Sodium pyrophosphate, acid, tech., bgs.,		
c.i., works, frt. equiv., 100 lbs.	56.25	—
food grade, non-leavening, bgs., c.i.,		
works, frt. equiv..... 100 lbs.	61.25	—
Sodium pyrophosphate, lonic, dms.,		
c.i., l., works..... lb.	3890	—
Sodium pyrophosphate, tetrabasic,		
anhyd., tech., bgs., c.i., l.,		
works, frt. equiv..... 100 lbs.	44.75	—
bulk, hopper cara, same basis.....		
100 lbs.	42.50	—
food grade, bgs., c.i., l., same basis.....		
100 lbs.	53.00	—
Sodium silicofluoride, USP, 200-lb. bags,		
1,000-lb. lots or more, works, frt. equiv..... lb.	3.05	—
USP, persul, 200-lb. bags, 100 lbs. lots or		
more, same basis..... lb.	5.00	—
Sodium sesquicarbonate, bulk, c.i., l.,		
works..... 100 lbs.	170.00	—
bgs., c.i., l., works..... 100 lbs.	199.00	—
Sodium silicate, acid, same basis, 3.22-		
3.25 ratio, bulk, c.i., l.,		
bgs., c.i., l., works..... 100 lbs.	15.75	—
1.95-2.00 ratio, bulk, c.i., l.,		
works..... 100 lbs.	20.30	—
bgs., c.i., l., works..... 100 lbs.	22.15	—
ash, 37° B° solid, 3.23-3.25		
ratio, bulk, c.i., l.,		
acid..... 100 lb.	8.30	—
"Ratio" indicates percentage by weight of SiO ₂ over		
percentage by weight of H ₂ O		
Sodium silicofluoride, tech., 100 lbs.	17.85	18
works, frt. equiv..... 100 lbs.	N.A.	N.A.
Sodium stannate, dms., wks, frt. and E.O.		
Sodium sulfamate, dms., works.....	22	—
Sodium sulfate, NF XII, powd., dms.,		
2,000-lb. lots..... lb.	23½	—
tech., detergent, rayon-grade, c.i.,		
works, bulk..... ton	90.00	98
Sodium sulfate, Westl, bulk, c.i., works,		
powd..... ton	90.00	101
bulk, c.i., East, same basis..... ton	113.00	114
Sodium sulfate, photo grade, 100-lb.		
bgs., c.i., works..... ton	47.00	53
Sodium sulfhydryl, Reiko, 70% dms., c.i., l., works, frt.		
equiv..... 100 lbs.	500.00	—
liq., 44-45%, lanks, works, frt.		
equiv..... 100 lbs.	500.00	—
Sodium sulfite, flake, tech., works, E.		
frt. equiv..... ton	470.00	—
bgs., same basis..... ton	410.00	—
Sodium sulfide, based, dms., c.i.,		
works, E., frt. equiv..... 100 lbs.	240.00	—
Sodium sulfoxide, anhyd., tech., 85-100%		
bgs., l.i., b. works..... 100 lbs.	23.75	—
Sodium sulfoxylate CP (see Sodium thioxyalate)		
Sodium tetraborate (see Sodium borate)		
Sodium tetrafluoride, liq., 34%, dms.,		
c.i., works, frt. equiv..... ton	540.00	—
Sodium thioacetate, purif., cryst., 250-lb.		
bags, 5-lb. or..... lb.	3.28	—
tech., anhyd. dms., 2,000 lbs. or		
more, works..... lb.	37	—
Sodium thioacetate, tech., photo purif.		
anhyd., 100-lb. bags, c.i., l.,		
works, frt. equiv..... 100 lbs.	45.50	—
cryst. pentahydrate, c.i., l., same		
basis..... 100 lbs.	29.50	—
Sodium thiosulfate, dms., 100 lbs.		14½
Sodium trichloroacetate, 96%, 50-lb.		
bgs., c.i., frt. and E.O..... lb.	28	—
Sodium trichlorophosphate, tech., bgs., c.i.,		
l., works, frt. equiv..... 100 lbs.	39.75	—
bulk, hopper cara, same basis, 100 lbs.	37.50	—
food grade, bgs., c.i., l., same basis.....		
100 lbs.	48.50	—
Sodium tungstate, 100-lb. bags, high		
acid, 10,000 lbs. or more, frt.		
equiv..... lb.	5.00	8
Folin grade dms., 10,000 lbs. or		
more, same basis..... lb.	8.00	100
Sodium tetraborate phosph., purif.		
cryst., dms., works..... lb.	52	—
Sodium-formaldehyde sulfoxylate, bgs.,		
dms., l.i., l.b. works..... 100 lbs.	91	—
Sodium-tetracyan sulfate, dms., 1,000-lb.		
lots or more, works..... lb.	28	—
tech., dms., any quantity, works, frt.		
equiv..... 100 lbs.	16	—
Sodium arsenite, 350°-360° F.		
66° F.m.p., lanks:		
New Jersey..... gal.	1.62	—
Houston..... gal.	1.41	—
Waco..... gal.	1.34	—
Solvent naphtha, petroleum, straight		
41° F., 50° F.m.p., lanks:		
New Jersey..... gal.	1.35	—
Houston..... gal.	1.30	—
Waco..... gal.	1.29	—
Solvent naphtha, petroleum, straight		
41° F., 50° F.m.p., lanks:		
New Jersey..... gal.	1.62	—
Houston..... gal.	1.41	—
Waco..... gal.	1.34	—

WEEK ENDING NOV 28, 1986	
	Sorbitan monooleate, dma., c.i., l.i., 50,000 lb. min., f.o.b. works, .76
	Sorbitan tetrastearate, c.i., l.i., 50,000 lb. min., f.o.b. works, .80
	Sorbitol, USP, reg. 70% aqueous, dma., c.i., f.o.b. shipping point, .36
	tarica, f.o.b. shipping point, .36
	gran, dma., c.i., l.i., works, .70
	powd, dma., c.i., l.i., works, .68
	Soybean meal (See Oil, Fat & Wax market report)
	Soybean oil, acidulated, nonpale, 95% add, tanks, New York lb., .14
	Soybean oil, acid, dbf., clat, dma., lb., .48
	s.d., dma., lb., .43
	tanks, lb., .47
	lb., .38
	Spermatin leaves, imp., lb., .2.50
	Spermatin oil, Far West, native, lb., 8.60
	Chinese, 80% lb., 8.60
	Chinese, 80% lb., 8.60
	Far West, Scotch, lb., 18.50
	Spice of, dma., lb., 8.00
	St. John's bread, entire, lbs., lb., 29
	Stannic chloride, anhyd, dma., lb., N.A.
	works, lb., N.A.
	Stannous chloride, anhyd., dma., lbs., lb., N.A.
	Stannous fluoroborate, liq. conc., dma., lb., 2.50
	Stannous sulfate, dma., works, lb., N.A.
	Stannous sulfate, dma., works, lb., N.A.
	Stearic acid, double pressed, bulk, lb., 32
	single-pressed, bulk, lb., 28
	triple-pressed, bulk, lb., 28
	Stramonium leaves, bag, lb., .15
	Streptomycin sulfate, USP, bulk, kilo, 47.00
	Strontium carbonate, glass grd., bags, lb., .374
	l.i., works, lb., 51.50
	Strontium nitrate, 60-15 bgs, c.i., works, 100 lbs.
	Styrene monomer, 99.8% min., l.i., f.o.b. plant, lb., .22
	Styrene-acrylonitrile resin, natl, bulk, f.o.b. plant, lb., .77
	cryst., bulk, same basis, lb., .77
	clat, same basis, lb., .77
	Styrol acetate, dma., lb., 2.35
	Succinic acid, purifi., cryst., dma., l.i., trt. eqd., lb., 2.00
	Succinic anhydride, dma., c.i., l.i., f.o.b. works, lb., 1.71
	Sucrose, ref., white, bgs, c.i., f.o.b. ref., 100 lbs, 33.10
	Sucrose acetate, isobutyrate, 50% dma., c.i., divd., lb., 1.18
	tanks, divd., lb., 1.10
	100%, dma., l.i., divd., lb., 1.18
	Sucrose octa-acetate, denaturing grade, 100-lb. dma., f.o.b. kilo, 12.50
	Sulfatebenzamide, dma., 500 kilos, kilo, 39.50
	Sulfatebenzamide-sodium, dma., 600 kilos, kilo, 26.00
	Sulfatebenzamide, USP, dma., 500 kilos, kilo, 53.00
	Sulfatebenzamide, USP, dma., 500 kilos, kilo, 40.70
	Sulfamerazine, USP, microcrystals, dma., 500 kilos, kilo, 33.50
	USP, powd, dma., 500 kilos, kilo, 32.00
	Sulfamerazine-sodium, USP, dma., 500 kilos, kilo, 13.00
	Sulfamethazine, powder, dma., 500 kilos, kilo, 6.00
	Sulfamic acid, c.i., dma., c.i., l.i., works, 100 lbs, 38.00
	Sulfamic acid, gran., dma., c.i., l.i., works, lb., .38
	Sulfamic acid, NF, reg. 1,000 lbs., trt. eqd., lb., 2.00
	Sulfanilic acid, tech., bgs, l.i., f.o.b. works, lb., 6.75
	Sulfisoxazole, white, gran., dma., lb., 6.00
	Sulfur, crude, bright, molten, dma., f.o.b. vesale, Gulfports, long-ton, 118.00
	l.o.b., ref., long-ton, 120.00
	extermal, Rotterdam, long-ton, 120.00
	l.o.b. tanks, Alberta, Canada, for US, ref., long-ton, 135.00
	dark, ext-Tampa, Florida, long-ton, 102.50
	Sulfur, acid, 99.5% min. purity, contl, flour 50-lb. bgs, c.i., mines basic, 13.80
	lump, same basis, 100-lb. bgs, 13.80
	Sulfur, reld., 99.5% min. purity, rolls 50-lb., bgs, c.i., mines basic, 17.50
	flour, 100-lb., 20.00
	Sulfur, reld., sublimed, NF, 99.5% min. purity, 50-lb. bgs, c.i., mines basic, 28.00
	Sulfur, rubbermaters, 99.5% min. purity, contl, reg., 50-lb. bgs, c.i., mines basic, 14.60
	fine, 99.5% min. purity, same basis, 15.60
	Sulfur tetrachloride, dma., c.i., works, trt. eqd., lb., .74
	Sulfur dioxide, gas, bulk, l.i., c.i., f.o.b. works, lb., 280.00
	Sulfur monochloride, dma., c.i., works, trt. eqd., lb., .29
	tanks, same basis, lb., .29

120.00
122.00
122.00
85.00
10.00
41.00
23.50
13.50
2.10
.81
.81
.27
.20
.40
.375
.39
.30
2.70
.43
.59
.44
.69
.15
.72
.74

WEEK ENDING NOV 28, 1988

West Coast 1	ton	88.00	-
NOTE: For prices on 60 and 68 Bbl. multiply by .7767 and .9318, respectively. For price of 20% turning element, as is, add \$3-\$4 to above prices and multiply by 1.045.			
Sulfuric acid, smelter, 100% tanks, works			
Gulf Coast	ton	46.00	52.00
Gulf Coast	ton	20.00	25.00
Southeast	ton	63.18	-
93% tanks, divd., Northwest	ton	90.00	95.00
Unrefined seed oil, crude, I.O.B. Minn.	lb.	16 1/2	.16
Superphosphate, triple, 48% or more, s.p.s., run-of-pile, bulk, c.i., Fla.	unit-ton	2.75	3.05
bulk, gran., c.i., Fla.	ton	160.00	165.00

44 CHEMICAL MARKETING IN THE 1980S

REPORTER December 1, 1986

[illegible]

1015, WOL 1007

US imports of chemicals and related materials are reported in this section by CPM material. Listings include consignee where possible, container, net weight, name of vessel (in parentheses), port of origin and date of shipment's arrival in New York or the Port of Newark.

US chemical imports/exports are tabulated monthly in the market reports.

December 1, 1963

...and the ...

Continued on Page 5:

UPE UNIVERSAL PROCESS EQUIPMENT, INC.

OVER 15,000 PIECES OF PROCESS EQUIPMENT IN STOCK...CALL TODAY!

LATEST ADDITIONS SOUTHWESTERN LIQUIDATION VESSELS-PRESSURE-316SS			
GAL.	PSI	GAL.	PSI
14,000	30	5,800	30
13,000	60	5,800	60
11,000	30	3,400	30
7,000	30	3,200	103
6,400	50	900	352

OTHERS FROM 50 TO 1,000 GAL.
TANKS-316SS

36,000, 16,500, 13,500 (2), 12,000, & 8,600 GAL.
MANY FROM 100 TO 5,000 GAL.

HEAT EXCHANGERS-316SS

19,000, 9,600, 7,200, 3,560, 2,480, 1,035, 853, 705,
617, 614, 371, 350, 102, 125 SQ. FT.

5,000 sq. ft. Model

HEAT EXCHANGERS-TITANIUM

23,770, 10,000, 16,998, 14,400, 14,252, 8,907, 2,170,
1,470, 1,400, 300, 200, SQ. FT.

REACTORS-316SS

5,100 GAL. 350 PSI AGIT. 3,170 GAL. 350 PSI AGIT. (4)
CENTRIFUGAL PUMPS - 6 TO 100 HP 316SS (40)

HEATER-15MM OTU/HI THERMAL PRODUCTS GAS
FINED SKID MTD. (2)

COMPRESSORS-1,240 CFM @ 110 PSI 250 HP (2)
220 CFM @ 215 PSI 150 HP (2)

AIR FIM COOLERS TO 40,440 SQ. FT. (6)

ALUMINUM PINS & SILOS TO 3,500 CU. FT.

COLUMNS-316SS-132"x110"x43 TRAV. 90"x35"x10
TRAY16"x33" PACKED 30 PSI (2)

1/RAND. XAP AIR COMPRESSORS: 20% 12% x 0.15, 100
PSI 300 HP & 10 x 16 x 7, 45 cu. ft. 200 HP
NEMPHERT GAS GENERATOR FOL. DCV 75 L 75000 SCFH

**2 INDUSTRIAL SITES-AVAILABLE
IMMEDIATELY**

Niagara Falls-New York Area
700,000 Sq. Ft. Buildings...50 acres of land
750,000 Sq. Ft. Buildings...35 acres of land

Plants manufactured Carbon Electrodes

Equipment Highlights:
5 Model 5057 Raymond HI-Sid Rotator Mills in operation till Sept. 1988
49 HI-intensity CS (kt. mixers similar to Littleford's.
Electrical sub stations and switch gear
Dust Collectors and Material Handling Systems
Carbon Extrusion Extruders: 57", 40", 30" & 22"
84" Lntie...New in 1974
14000 Ton United Hydraulic downstroke forging & forming press
Complete vertical Autoclave System...19 dia. x 28'4", 347 SS, 150
psi & 0.1 MM vac. & @ 700°F
Complete plant railroad...Unit cars/hopper cars/locomotive

**UPE WILL SELL/RENT/LEASE COMPLETE
FACILITIES OR SELL EQUIPMENT PIECEMEAL**
CONTACT: RON GALE FOR DETAILS 609-443-4545

ALABAMA CHEMICAL PLANT

(3) 280 cu. ft. 316 SS rotary vac dryer systems
10' x 14' Elmcn rotary vac filter
(2) Niagara 30 H 150 Htons SS
NASH model 119 vac pump w/hullor V 300 booster
Heater: (4) 3300 gal. 316 SS 60/30 HP agit w/coils
100 psi
(1) 3300 gal. 316 SS 30 HP, 6TV, 300psi coils
(2) 2000 gal. 316 LSS, 75/200 psi agit
Tanker: 15000 gal. 310L SS agit.
5800, gal. (3) 3000, 2200 gal. Motor vertical
4000 gal. G/L Pfaudler Chastator 30 psi
SS Heat exchangers from 100 to 500 sq. ft.
plus many misc. items.

TWO LARGE LIQUIDATIONS

**48"x24" TOLHURST SS "BATCHMATIC"
CENTRIFUGE (6) COMPLETE...LATE
MODEL**

**18" DIA. SS BAKER PERKINS TERMEER
PUSHER CENTRIFUGE**

**60"x40" JEFFREY SS CONTINUOUS FLUID
BED DRYER (2)**

60"x20" JEFFREY SS FLUID BED DRYER

6'x40" FULLER CS ROTARY DRYER, 50 HP

**6'x32" CS COUNTER-CURRENT ROTARY
DRYER**

ST REGIS 3-STATION BAGGER MDL. 10-VC-3

54" DIA. DUCON 304SS SCRUBBER TYPE L

**3-95 CU. FT. DAY SANITARY SS RIBBON
BLENDERS, 15 HP**

**1-43 CU. FT. DAY SANITARY SS RIBBON
BLENDER**

**1-8'x12"SS, K-S PRECOAT ROTARY VACUUM
FILTER**

**1-1'x3' K-S PRECOAT ROTARY VACUUM
FILTER...COMPLETE WITH ALL
ACCESSORIES**

**1-7' DIA. BOWEN SPRAY DRYER...
COMPLETE WITH ALL ACCESSORIES**

EQUIPMENT WANTED
GOOD, USED, CHEMICAL,
PHARMACEUTICAL & RELATED
EQUIPMENT - CENTRIFUGES,
DRYERS, FILTERS, REACTORS,
TANKS ETC.
WE WILL PURCHASE INDIVIDUAL
ITEMS OR COMPLETE
PLANTS.
CALL OUR OFFICE TODAY. TOP
DOLLARS PAID. NO DEAL TOO
BIG OR TOO SMALL.

DRYERS

Drum Dryers / Flakars
(1) 24" dia. x 36' Buflow SS dble. drum
(2) 24" dia. x 36' Buflow SS dble. drum
(3) 24" dia. x 36' Buflow SS dble. drum
(4) 24" dia. x 36' Buflow SS dble. drum
(5) 24" dia. x 36' Buflow SS dble. drum
(6) 24" dia. x 36' Buflow SS dble. drum
(7) 24" dia. x 36' Buflow SS dble. drum
(8) 24" dia. x 36' Buflow SS dble. drum
(9) 24" dia. x 36' Buflow SS dble. drum
(10) 24" dia. x 36' Buflow SS dble. drum

Fluid Bed
(1) 100 Kg. Automatic, Galch, 8'x9', 55,000
(2) 100 Kg. Automatic, Galch, 8'x9', 55,000
(3) 100 Kg. Automatic, Galch, 8'x9', 55,000
(4) 100 Kg. Automatic, Galch, 8'x9', 55,000
(5) 100 Kg. Automatic, Galch, 8'x9', 55,000
(6) 100 Kg. Automatic, Galch, 8'x9', 55,000
(7) 100 Kg. Automatic, Galch, 8'x9', 55,000
(8) 100 Kg. Automatic, Galch, 8'x9', 55,000
(9) 100 Kg. Automatic, Galch, 8'x9', 55,000
(10) 100 Kg. Automatic, Galch, 8'x9', 55,000

Rotary Vacuum
(1) 100 Cu. Ft. Stokes, SS, const., compit.
(2) 100 Cu. Ft. Stokes, SS, const., compit.
(3) 100 Cu. Ft. Stokes, SS, const., compit.
(4) 100 Cu. Ft. Stokes, SS, const., compit.
(5) 100 Cu. Ft. Stokes, SS, const., compit.
(6) 100 Cu. Ft. Stokes, SS, const., compit.
(7) 100 Cu. Ft. Stokes, SS, const., compit.
(8) 100 Cu. Ft. Stokes, SS, const., compit.
(9) 100 Cu. Ft. Stokes, SS, const., compit.
(10) 100 Cu. Ft. Stokes, SS, const., compit.

Spray
(1) 20" dia. Bowen Laboratory w/3' cone bot.
atomizer, SS const., w/centrifugal atomizer, 3
HP motor & motor.
(2) 20" dia. Bowen Laboratory w/3' cone bot.
atomizer, SS const., w/centrifugal atomizer, 3
HP motor & motor.
(3) 20" dia. Bowen Laboratory w/3' cone bot.
atomizer, SS const., w/centrifugal atomizer, 3
HP motor & motor.

\$AVE \$AVE \$AVE \$AVE

**LIQUIDATION OF 160MM #1/YR. SODIUM TRIPHOSPHATE PLANT-
KEARNY, NEW JERSEY**

1-8' dia. x 50' Bartlett Snow Rotary
Dryer, SS, 100 HP.

1-8' dia. x 50' Louisville Steamtube
Rotary Dryer, SS clad, 40 HP.

1-11'8" x 70' J. Bartlett Snow
Calciner, 316SS, 1100°C., com-
plete.

1-11'8" dia. C.E. Raymond Separa-
tor, single whizzer, CS const.

1-24,000 Gal. Mix Tank, SS const.,
16' dia. x 16', 20 HP.

1-20,000 Gal. Storage Tank, SS
const., 16' dia. x 14'.

2-10,000 Gal. Storage Tank w/
Jckt., SS const., atmos. int., 150
psi jckt.

1-10,000 Gal. Mix Tank, SS const.,
13' dia. x 10', 30HP.

1-10,000 Gal. Mix Tank w/int.
coils, 13' dia. x 10', 30 HP.

1-Merley NC Tower, 86"W. x 14'6"
L. x 9'H.

1-1130 sq. ft. Micro-Pul Reverse
Jet Dust Collector, CS const.

*Large Quantity Silos. Many Screw
Conveyors Available-various
sizes, CS & SS construction.

**BUY DIRECT FROM PLANT SITE AND SAVE!!!
CALL FOR COMPLETE DETAILS.**

EVAPORATORS

(1) 1 Sq. Ft. Arltan "Kolar" Just-O-Film sys. 316SS
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP
(1) 1 Sq. Ft. Luma Wiped Film, 316SS, 1.5 HP

FILTERS

Pressure Leaf
1-582 Sq. Ft. 316ELC, Hercules, 26 leaves
1-512 Sq. Ft. 316SS, Niagara, 21 leaves
1-400 Sq. Ft. R/L Sparkler
1-327 Sq. Ft. 304SS, Ind. Filter, 11 leaves
1-320 Sq. Ft. Orco 316 SS, 11 Leaves
1-250 Sq. Ft. Pronto Mdl. #3289, 75 psi
1-200 Sq. Ft. SS, Hercules, Horiz.
1-191 Sq. Ft. Enslinger, SS, Vert., 75 psi
1 - 157.84 sq. Ft. Sparkler model 55-5-26,
316SS
1-150 Sq. Ft. Horiz., 12 Vert. Leaf 316SS
1-135 Sq. Ft. Ni. Gower, Vert.
1-35 Sq. Ft. Hercules Model G, 316 SS,
horiz. tank vert leaves 50 psi
1-Sparkler Mdl. #16 O 12, SS const.
1-Sparkler Mdl. #16 O 4, const.
1-Sparkler Mdl. #338 28, const.

Rotary Vacuum
1-58.5 Sq. Ft. K5, Inconel 600
1-58.5 Sq. Ft. K-5, 316SS, flexible diach.
1-67.92 Sq. Ft. Falnc, SS wetted parts,
spring diach., 88" dia. x 6' lace drum
1-132 Sq. Ft. Carr Oliver, 304SS, maxibelt
diach.
1-200 Sq. Ft. Elmcn, 316SS, 6'x6'
4-250 Sq. Ft. O.O. 316L SS Precoat, 6'
x10', aenit
1-250 Sq. Ft. K-5 316SS, coil diach.
1-300 Sq. Ft. Elmcn, 316SS wetted parts,
precoat type w/knife diach., 10' dia.
10' drum, compit. w/control panel &
aux. equipment
1-314 Sq. Ft. Elmcn, precoat diach., 316SS
1-400 Sq. Ft. Elmcn, CS, Precoat
1-500 Sq. Ft. Elmcn, 316SS, belt diach.
1-3'x1' 316SS, knife diach.
1-3'x1' Carr Oliver, FRP w/receiver & Nash
H4 vac. pump, 10 HP
1-3'x1' K-5 comp. eye, 316 SS Flex-belt
diach.

BLENDERS

800 Cu. Ft. Jkt. Dbl. Rtn. CS
Approx. 460 Cu. Ft. CS, 76 HP
UNION 400 Cu. Ft. Jkt. Rtn. Paddle, CS, 76 HP
400 Cu. Ft. J. H. Day Dbl. Ribbon Carbon Steel Contr. 40 HP (1)
300 Cu. Ft. CS Dbl. Cone 30 HP
200 Cu. Ft. R. 316SS Dbl. Cone
175 Cu. Ft. P.K. Twin Shell, 316SS
160 Cu. Ft. J. H. Day Dbl. Ribbon Carbon Steel Contr. 25 HP (2)
150 Cu. Ft. CS Dbl. Cone, 7.5 HP
83 Cu. Ft. J. H. Day Dbl. Ribbon Carbon Steel Contr. 25 HP (2)
60 Cu. Ft. P.K. Twin Shell, w/int. bar
60 Cu. Ft. Dbl. Cone, 304SS
40 Cu. Ft. Dbl. Cone, 316SS
37 Cu. Ft. Dbl. Cone, 316SS
30 Cu. Ft. P.K. Twin Shell, SS
20 Cu. Ft. P.K. Twin Shell, SS
18 Cu. Ft. Robinson Dbl. Rtn. CS
16 Cu. Ft. W.C. Melroe, 7.5 HP
16 Cu. Ft. Robinson Dbl. Rtn. CS
10 Cu. Ft. P.K. Twin Shell, 316SS
10 Cu. Ft. P.K. Twin Shell, 316SS
6 Cu. Ft. SS Dbl. Cone w/liquid-cooled bar
10" P.K. zig zag

CENTRIFUGES

(1) Federal BRP 308, SS, 20HP
(1) Unvest Model 9-10 Podbielniak, Alloy 20
(1) Stokes AS-26, SS
(1) Stokes AS-18P, 316SS
(1) M. K. S. Centrifuge, Horiz., Mdl. NX314
(1) Dorr Oliver Mdl. C130 CSU "Morco," 316SS
const., 180 HP
(1) Baker Perkins B-32 "Pusher Type," 55, 60 HP
(1) 18" x 24" 316 ELC, contour bowl.
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP
(1) 18" x 24" 316SS, 40 HP

**RIGGING/DISMANTLING
DEMOLITION/ASBESTOS REMOVAL**

WE ARE EXPERTS AT DISMANTLING
REERECTION, RIGGING DEMOLITION
AND ASBESTOS REMOVAL WITH TER-
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CALL US TODAY FOR A QUOTATION
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HANDLE GLASS.

REACTORS

Glass Lined
4,000 Gal. Pfaudler, 100/90 psi, TW
4,000 gal Pfaudler, 50/30 psi
3,700 gal Glecoate, 50 & 30 psi
3,000 gal Glecoate, 50 & 30 psi
3,000 gal Pfaudler, 75/50 psi
2,000 gal Pfaudler, 75/50 psi
1,000 Gal. Pfaudler, 100&FV/90 psi,
4RW
1,000 Gal. Pfaudler, RA60 Series, 100&
FV/90 psi, 4RW
1,000 Gal. Pfaudler, RA60 Series, 100&
FV/90 psi, 4RW
800 Gal. SS clad, 60/80 psi
750 gal. OaOletrick, Phila drive
500 Gal. Pfaudler, 100&FV/65 psi, BH
drive

Stainless Steel
4,000 Gal. 316SS, Atmos./50 psi, withcoils
3,000 Gal. 316SS, Atmos./50 psi, withcoils
2,500 Gal. 316L SS, 75/75 psi, 150 psi int. coils
2,000 Gal. Nooter Autoclave, 316L 2000
psi, FV int. coils
2,000 Gal. Dusenber, 316 SS, 15/35 &
FV int., 50 psi jkt.
1,750 Gal. 316SS Nolta, 1467/50 psi
1,500 Gal. 304SS, 10 HP Lightnin
1,500 Gal. 304 SS, 100/30 psi
1,000 Gal. 304SS, 250/80 psi
1,000 gal. 316SS, 50/75 psi jkt
1,000 Gal. 316 SS, 15 & FV/50, 10 HP
1,000 Gal. 316 SS, 100/30/10 HP
750 Gal. 316SS, 75 & FV/50 psi
750 Gal. 304SS, 50/80 psi
600 Gal. 316SS, 3000psi, 10 HP
600 Gal. SS, 50 psi, 1.5 HP XP
500 Gal. 316SS, SS & FV/55 psi
450 SS, 60/75 psi
100 Gal. 316SS, 15/50 psi
100 Gal. 316ELC SS, 500/90 psi

***** SPECIAL OFFER *****
4-ORALS SAND MILLS, TYPE PM-80-
STS-DDA, MANUFACTURED 1984-85.
PRICED TO SELL - CALL FOR DETAILS

**COMPLETE DRY TONER PLANT/POWDERED
COATING PLANT**

**Complete Lines: Fine Grinding
Drying
Compounding
Packaging
Molding**

* UNUSED 7' Bowen Spray Dryer Complete
with all accessories and structural steel
WE WILL SELL COMPLETE LINES. CALL
FOR DETAILS

VACUUM DRYERS

325 cu. ft. Abbe, 304 SS dbl. cone
200 cu. ft. 316SS, 6'x11'6", rotary
164 cu. ft. Paterson "Conalorm," 316SS Dbl. cone
150 cu. ft. SS 304 SS Twin Shell
150 cu. ft. SS, & 150 cu. ft. Nickel clad
125 cu. ft. SS & CS, 4'x14', 105/90/150 psi
125 & 83 cu. ft. Buflow SS Rotary
90, 70, 60, 50, 30, cu. ft. PK SS & G/L dbl cone
70 cu. ft. KS Titanium dbl. cone
40, & 15 cu. ft. Stokes, SS rotary

**WE HAVE OVER 700 SS TANKS
IN STOCK**

**GLASS * GLASS * GLASS
REACTORS**

5,000 GAL. ODETRICH 100FV/90 REGLASSED
4,000 GAL. ODETRICH 100/90PSI
3,000 GAL. ODETRICH 100/90, PHILA. ORIVE
3,000 GAL. RA SERIES, 100/90 TW, REGLASSED (2)
2,000 GAL. RA SERIES, 100/90 TW, REGLASSED
1,000 GAL. RA SERIES, 100/90 TW, REGLASSED
1,000 GAL. E SERIES 25/90 (4)
750 GAL. E SERIES 25/90 (4)
500 GAL. RA SERIES, 100/90, TW
400 GAL. E. SERIES, 25/90, TW
300 GAL. E. SERIES, 25/90, TW
200 GAL. E. SERIES, 25/90 REGLASSED, TW
100 GAL. E. SERIES, 25/90, TW

OVER 100 GLASS LINED REACTORS IN STOCK

GLASS LINED TANKS
FROM 5-22,000 GALLONS
TRAILER LOADS OF GLASS LINED PARTS AVAILABLE
* LOU FALCONE-OUR G/L SPECIALIST WITH 21 YRS.
EXPERIENCE IS HERE TO HELP YOU!

STAINLESS STEEL REACTORS

20,000 GAL. 304SS, 40 & FV
9,000 GAL. 304 SS, 50/5 PSI
8,500 GAL. INCONEL, 40/60 PSI AGIT.
0,000 GAL. 304SS, 100/15 PSI
4,200 GAL. 310 ELC, 50FV/60 PSI
3,000 GAL. 310 ELC, 75 FV/100 PSI
2,800 GAL. 304SS, 28FV/100 PSI
2,500 GAL. 316SS, 1,000/100PSI (2)
1,300 GAL. 316SS, 150FV/125 PSI
1,000 GAL. 316ELC 100FV/80 PSI
800 GAL. 316SS, 140FV/50 PSI (3)
780 GAL. 316 ELC, 180FV/140 PSI
500 GAL. INCONEL, 50FV/60 PSI
400 GAL. HAST C, 210FV/160 PSI

**CALL NOW ABOUT GRANT HUNTER ISLAND
& NEW JERSEY LIQUIDATION
MOST EQUIPMENT STILL INSTALLED**

(89) Glass Lined & SS Reactor systems
complete with condenser, receivers
and control panels, from 50 gal. to
4000 gal.

(30) Filter Presses polypro & SS from
18" to 56" plate/ frame & recessed
plates.

(25) Vacuum dryer systems complete
with condensers, vacuum pumps and
receivers.
Double Cone: glass & SS.
Rotary Vacuum Dryers 316 SS
Vacuum Shelf Dryers SS and Hercules
lined.

(18) Centrifuges 316 SS automatic bak-
kot centrifuges complete with controls
and nitrogen purge
Scrubber systems/Vacuum filter sys-
tems/Glass lined and SS tank forms.

MUCH MORE !!!

**30,000 Gal. 1974 Propane Tank 280
PSI**

10,000 Gal. 347 SS Tanks (3)

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& SELL CHILLERS**

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**RIGGING
DISMANTLING
RE-ERECTION
DEMOLITION**

COFFEE PLANT LIQUIDATION

(1) Mdl. #DASO-8 Plant w/ liquidator, on stand.
(1) Mdl. #D-8 Plant w/ 7/8 HP main motor & 2 HP on stand.
(1) Mdl. #20H Micro-Pulverizer.
(1) Mdl. #20H Micro-Pulverizer, SS, w/40 HP main motor & 2 HP motor &
motor.
(1) Micro-Pulverizer SS Reverse Jet Out Collector, Model #84-8-5-30.
(1) 8' x 4'2" Votator Scrapped Surface Heat Exchanger, w/6 HP motor &
motor.
(1) 40' Buflow Single Deck Screen w/cover, SS const., 1 HP
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.
(1) 32' x 8' W. H. Waring Conveyor, SS, w/cover, 2-deck.

FOR ADDITIONAL INFORMATION-CALL IDM TODAY...

MANY MORE ITEMS IN STOCK-CALL IDM TODAY!

MIXERS

4.5 Gal. Kneader Master Cont., SS w/jkt.
5 Gal. AMK 304SS Jckt. Kneader Extruder
18 Gal. W.C. Reasco Sigma Blade Obl. arm
28 gal. Reasco Obl. Arm Sigma Blade Jkt. SS
construction 16 HP
80 Gal. Hockmeyer Pony, SS contacts, 7.8 HP
varispeed
100 Gal. SS, Sigma Blade, Jckt. 40 HP
200 gal. W-P CS dble arm Sigma blade, 20 HP
280 gal. AMK Kneader Extruder, Sigma
Blades, CS const., 40 psi, trough jkt.
500 liter Welex Hi Intensity, SS contact parts
600 Gal. S-W Rubber Cement, CS, 2-10 HP
motors (2)
Unused 1000 Gal. Sanitary 316SS B-K Dbl. Motion
Change Cse: 100&FV/105 PSI, 125HP
Littleford Model FKM-2000, SS
Littleford Model FKM-2000, SS
Littleford Model FKM-2000, SS, w/choppers
7 Cu. Ft. 304SS Nauta Model MBX-70
10.6 Cu. Ft. Nauta D-105, CS
Welding Eng. Model 27FV129 Twin screw
Extruder, SS, Contacts, 160 psi
Kochling mtl. 350, 40 HP
NEW/NEVER USED 75/37.8 HP Hockmeyer
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PLUS LOTS - LOTS MORE

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KETTLES-REACTORS, SS

30,000 gal. 304SS reactor, 14' x 24', 25 gal./vac., coils, 200 HP agit. (4)
5,000 gal. 304SS, atm. int., 75 gal./kt. agit.
4,100 gal. 304SS kettle, 16 gal./kt., 5 HP agit. (2)
2,500 gal. 316SS kettle, 20 gal./kt., 7.5 HP agit. (2)
1,500 gal. 304SS reactor, 15 gal./vac., 150 gal. kt. (2)
1,500 gal. 316SS reactor, 15 gal./vac., 150 gal. kt. (2)
1,500 gal. 304SS reactor, 15 gal./vac., 150 gal. kt. (2)
1,500 gal. 304SS reactor, 15 gal./vac., 150 gal. kt. (2)
1,500 gal. 304SS reactor, 15 gal./vac., 150 gal. kt. (2)
1,500 gal. 304SS reactor, 15 gal./vac., 150 gal. kt. (2)

BIG PFAUDLER 316SS REACTORS

(3) 15,000 gal. Pfaudler, 316SS, 12'6" x 15', 100 gal. 200 gal. kt. Agit. (4)
(4) 10,000 gal. Pfaudler, 316SS, 11'6" x 12'6", 100 gal. 100 gal. kt. Agit.

REACTORS-GLASS

2 gal. Pfaudler, 150 gal./vac., 700 gal. kt. (2)
20 gal. Pfaudler, 35 gal./vac., 100 gal. kt. (2)
30 gal. Pfaudler, 100 gal./vac., 85 gal. kt. (2)
50 gal. Pfaudler, 25 gal./vac., 90 gal. kt. (2)
100 gal. Pfaudler, 100 gal./vac., 90 gal. kt. (2)
150 gal. Pfaudler, 25 gal./vac., 90 gal. kt. (2)
200 gal. Pfaudler, 25 gal./vac., 90 gal. kt. (2)
300 gal. Pfaudler, 100 gal./vac., 90 gal. kt. (2)
500 gal. Pfaudler, 100 gal./vac., 90 gal. kt. (2)
750 gal. Pfaudler, 25 gal./vac., 90 gal. kt. (2)

LIIQUIDATION! CHEMICAL POLYMER PLANT...ILLINOIS...BUY BEFORE REMOVAL AND SAVE!!

Bird 32" x 50", centrifuges, 316SS, conical (2)
Wals 8" Extruder, 700 HP, 30:1 L/D (5)
Wals 6" Extruder, 400 HP, 30:1 L/D (2)
Conair 24" pelletizer, 40 HP (2)
Ranneberg 5' x 25' 304 SS rot. hot air dryers, 10 HP, (3)
Sweco & Kason 60" screens, SS (2)
K-Ton 7000#/hr. twin screw volumetric feeder, SS, (5)
Pfaudler 1,500 gal. 316L SS reactor, FV-180 psi 5 HP agit. (2)
Pfaudler 10,000 gal. 316L SS reactor, 150 psi FV int., 180 gal. kt., hyd agit. (4)
Worth Plant air comp., 323 CFM @ 125 psi, 75 HP, Model #4-BB-2 (2)
17,000 gal. & 12,000 gal. 316 SS Tanks (3)

PHONE (609) 267-1600

DRYERS

Blaw Knox 54" x 40' SS vac. dryer, 600 cu. ft.
Blaw Knox 38" x 20' vac. dryer, 318L SS, 72 cu. ft.
Blaw Knox 28" x 38' vac. dryer, alder
Marble 24" x 48" Baker, chrome plated
Sandvik 48" x 24" SS ball dryer, UNUSED
Sargent 60" x 45' SS conveyor dryer
Blaw Knox 32" x 60' dbl. drum
Aeromatic 28T-4 fluid bed dryer, 5/10 KG
Witte 38" x 10' fluid bed, SS, semi-cooler
Renneberg 34" x 20' rotary dryer, 316 SS
66" x 50' Louisville SS rotary dryer
10' x 100' GATX rot. steam tube dryer, 304SS
Wyamont #WTL-24 Turbo-Lay dryer, 304SS
P-K 20 cu. ft. vac. dryer, 304L SS (2)
Abbe 30 cu. ft. 304SS vac. dryer
Devline 110 cu. ft. 304 SS vac. dryer
Pfaudler 150 cu. ft. glass-dust vac. dryers (2)
Abbe 325 cu. ft. 316SS vac. dryer
Devline 370 cu. ft. 316SS vac. dryer
Devline 564 cu. ft. vac. shell dryer
Niro 30" SS spray dryer
Bomen 72" spray dryer, SS
Bomen 66" spray dryer, SS

FILTERS-VACUUM

30" x 11' Don-Olive, bag glass & sq. ft.
30" x 11' Ametek, 318 SS, 8 sq. ft.
40" x 13' Bird-Young, SS, 48 sq. ft.
4" x 16' Elanco, 316SS, 64 sq. ft. horiz.
6" x 8' Ametek, SS, 56 sq. ft.
6" x 8' Elanco, SS, 200 sq. ft. precoat
6" x 10' Don-Olive, 260 sq. ft., 316SS, precoat
6" x 12' Elanco, 316SS, precoat, 300 sq. ft. (2)
6" x 14' Don-Olive, 316SS, precoat, 350 sq. ft. (2)
10" x 10' Elanco, 316SS, precoat, 314 sq. ft.
11' x 16' Elanco, SS contacts
12" x 14' Komline, 304SS, 525 sq. ft., Hazbell dash. (2)

FILTERS-PRESSURE

54 sq. ft. Fonda, SS, 100 gal. (2)
65 sq. ft. Artisan "Dynamic" filter/washer, SS (2)
140 sq. ft. Magare #30-140 316 SS (2)
300 sq. ft. U.S. Autoljet, 316SS, Sanitary (2)
600 sq. ft. U.S. Autoljet, 316SS, Sanitary (2)
1000 sq. ft. U.S. Autoljet, 316SS, Sanitary (2)
36" Shriver filter press, 545 sq. ft., hydraulic
48" Shriver filter press, 777 sq. ft., hydraulic
48" Shriver ALP recessed filter press, 86, 276 sq. ft.
48" Poly Filter Co. polypropylene filter press, 2094 sq. ft., 67 cu. ft. cake, 1983

PULVERIZERS

Mikro #4TH pulv., 125 HP, UNUSED (15)
Mikro #5MA atomizer, SS
Mikro #6MA atomizer, SS
Mikro #7MA atomizer, SS
Mikro #8MA atomizer, SS
Mikro #9MA atomizer, SS
Mikro #10MA atomizer, SS
Mikro #11MA atomizer, SS
Mikro #12MA atomizer, SS
Mikro #13MA atomizer, SS
Mikro #14MA atomizer, SS

NEW LIQUIDATION...CHEMICAL PLANT...GARFIELD, N.J.

(1) 316SS packed column, 18" x 18", 20' x 12", 36" x 26" 36" x 40"
(1) 30" x 48" Elitch 316L SS column, 24 trays
(1) 48" x 60" high SS tray column
(1) 80" x 60" high SS tray column, 60 trays, FV/78 psi
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays
(1) 72" x 36" high SS column, 11 trays



CENTRIFUGES

Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)
Sharpley P-4000 O-Center, 316SS, Carbide tiles, lata (2)

NEW & UNUSED PROCESS EQUIP., 1982, IN ORIGINAL PACKING... SOUTH CAROLINA, CALL! Phone (609) 267-1600

BALERS, Diapazapok #0600 balers, (2)

BAG PACKER, Howe-Richardson #0-5-17 wmt. automatic bagging system SS contacts
BINS, 304L SS contacts, 1300 cu. ft. (2)
CENTRIFUGE, Bird 24"x36", 304SS, Model 13 solid bowl continuous, 10 deg. conical bowl Tungsten carbide tiles on conveyor, 150 HP
CHILDRENATION SYSTEM, Wellace & Tarnum COLUMN, 46" dia. x 15'6", 304SS
CYCLONE, Oucan Model 700/175 304SS high efficiency cyclones, size 210, Type W (4)
DRYERS, Nootar 4' x 14' rotary vac. dryer, 316L SS shell and jacket, inclose ribbon agit. ASME 100 gal./vac. int. & jacket, 100 HP
FURNACE, C-E Air Co. "Cor-Pak" thermo dryers, direct gas fired
MIXER, Air mix blender eyeless, Koppers-Sprout Waldrun #36-500, 500 cu. ft., 304SS
MIXERS, Webb, 50" W x 16L twin shell paddle mixers or pug mills, 304SS contacts, (2)
PULVERIZERS, Mikro #4TH pulverizer, 125 HP drive, (15)

TANKS & VESSELS

24 sq. ft. Rodney-Hunt SS, 3 HP
21 sq. ft. Rodney-Hunt Turbafin #4, SS
87 sq. ft. Rodney-Hunt, 304 SS, Turbafin
100 sq. ft. Pfaudler, 316L SS, wiped film
600 sq. ft. G. G. G. Birmingham dol. effect, SS
654 sq. ft. Buffalo dol. effect, SS
1688 sq. ft. Roger dol. effect, SS
Swenson 316SS continuous crystallizer, 6" x 14'

MIXERS, BLENDERS

3.5 cu. ft. Henschel #F1150, 17/20 KW
11.5 cu. ft. Henschel #1155SS, 62/48 HP
13.5 cu. ft. Lodge #W800/K1200, mix/cool comb.
20 cu. ft. P-K twin shell SS
33 cu. ft. Abbe high intensity, SS, 40/20 HP
35 cu. ft. Day Nautia, #NEX350, SS
62 cu. ft. Niro 304SS mixer (2)
60 cu. ft. Day Nautia, TW 51, SS, 50 HP
69 cu. ft. Patterson dbl. cone, SS
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP
75 cu. ft. Day Nautia, SS, 10 HP

NEW LIQUIDATION

ULTRA-MODERN 5000 TONS/DAY BEET SUGAR PROCESSING PLANT & REFINERY... BUILT 1978, UPDATED 1983...LOCATED EASTERN CANADA, NEAR WATER... VERY BIG SAVINGS IN TIME & MONEY...CALL FOR DETAILS!

REACTORS

4000 gal. 316 SS Reactor 80/50 psi half pipe
15,000 gal. 304 Elco, w/kt. vac. Reactor
Downington 1500 gal. Monel Cled Reactor
Wetzel 3000 & 750 gal. SS Reactor dimple
Pfaudler 500 gal. G/L Jkt. vac. Reactor
Pfaudler 9200 gal. G/L Reactor 80/80 psi
Unused

PAINT PLANT LIQUIDATIONS

1000 gal. 316 SS Reactor 80/50 psi half pipe
15,000 gal. 304 Elco, w/kt. vac. Reactor
Downington 1500 gal. Monel Cled Reactor
Wetzel 3000 & 750 gal. SS Reactor dimple
Pfaudler 500 gal. G/L Jkt. vac. Reactor
Pfaudler 9200 gal. G/L Reactor 80/80 psi
Unused

GRINDERS & MILLS

Alpine Sieve Model #D-6/09A/12, 30 HP SS
Cumberland Grinder Size 14
Entolter Compact Mill, Type EIM, SS, 30HP
Fitzmill Model #D-6/09A/12, 30 HP SS
Greenco Colloid Mill, 3HP & 5HP
Micro Pulverizer 4 TH (3)
Rotoz Screener 2' x 4'
Stimpson Mueller 6" x 5" size 2 VO mixer
Sweco Separator 48"/30"/24"/18" SS

J. Little Mercer Co., Inc.

254 Hornbine Road
Rehoboth, Mass. 02769
(617) 679-1901

BLENDER & MIXERS

150 cu. ft. Dbl. Cone Blender
Baker Perkins 150 gal. C/S Jkt. vac. blander
Baker Perkins Sigma Blade Mixer Lab. SS Jkt. vac.
Devline 100 cu. ft. Dbl. Cone Blender, C/S
J.H. Day 23 cu. ft. SS Ribbon Blender
J.H. Day 40 cu. ft. SS Ribbon Blender (3)
Myers 10HP vac. speed Disolver
Nauta Mixer 70 cu. ft. SS 10HP (2)
Patterson Kelly 1 cu. ft. Twin Shell SS 500 lb. Gens.
Patterson Kelly 30 cu. ft. Twin Shell Blender
Patterson Kelly 40 cu. ft. Twin Shell Blender SS
Patterson Kelly 1500 cu. ft. C/S Blender 75HP
Patterson Kelly 4 qt. SS Twin Shell/kt. solids
Peul O. Abbe 60 cu. ft. SS/asm. jkt. vac. Blender 50HP
Readco Sigma Blade Mixer 10 gal. SS Dual Level (Like New)
Rose 10 gal. Planetary Mixer SS
Rose 15 gal. SS Jkt. mixer 7 1/2 HP mdl. AMK 15
Strong-Scott 20 cu. ft. C/S Ribbon Blender

GRINDERS & MILLS

Alpine Sieve Model #D-6/09A/12, 30 HP SS
Cumberland Grinder Size 14
Entolter Compact Mill, Type EIM, SS, 30HP
Fitzmill Model #D-6/09A/12, 30 HP SS
Greenco Colloid Mill, 3HP & 5HP
Micro Pulverizer 4 TH (3)
Rotoz Screener 2' x 4'
Stimpson Mueller 6" x 5" size 2 VO mixer
Sweco Separator 48"/30"/24"/18" SS

FEATURED ITEMS

Abbe 20 cu. ft. SS Conical Vac. Dryer
Aeromatic Fluid Bed Dryer Lab. MDL #ST-15
Aeromatic Fluid Bed Dryer SS MDL 100ST 20
Bowen Spray Dryers 7 1/2' & 5' SS
Fitzpatrick Fluid Bed Dryer SS Lab MDL #75
Gemco Dbl. Cone vac. Dryer 10 cu. ft. SS
Jeffery Fluid Bed Dryers 2' x 2' SS (2)
Patterson Kelly Twin Shell 163 cu. ft. vac. processor SS
Patterson Kelly Twin Shell vac. Dryer 75 cu. ft.
Patterson Kelly 5 cu. ft. SS Conical Vac. Dryer
Pfeudler Conical vac. Dryer G/L 72 cu. ft. compl. eye.
Standard Hershey 4' x 30' Rotary Dryer SS
Stokes 5' x 30' Rotary Vac. Dryer, Jkt. SS
Stokes Vac. Shelf Dryers 48.6 sq. ft. (7)
Strong Scott Rotary Vac. Dryer SS 3' x 12' Solids

FILTERS

Bird (Planville) Filter SS, 12" wide x 17" long
Elanco 4' x 12' Vac. Belt Filter 316 SS
Enginger Leaf Filter SS 260 sq. ft.
Evres SS Rotary Filters 6 x 8
Funda Filter 4' dia., SS, Jkt. w/20HP Drive
Hercules Filter 500 sq. ft. 316 SS
Industrial Filter 100 sq. ft. Type 122 ID 21 MDL OMD
Shriver 36" ALP 316 SS, 41, 46 Chambers (2)
Sparkler Filter MDL #16 D-4 SS Jkt/SS 8-6
Sperry 24" Plypro Filter Press 48 Chambers
Star SS Filter Presses 16" (5)
US Autoljet Filter SS 50 sq. ft.
US Autoljet, 750 sq. ft. MDL #750, 316 SS

CENTRIFUGES

Bird Centrifuge C/S 40"x28" Solid Bowl w/ drive
Bird Centrifuge C/S 18"x28" Contour Bowl (UNUSEO)
Bird 36"x50" 34788 Contour Bowl
Sharpley 12" SS Lab Model/Brighton Lab
Sharpley P-3000 Decanter 30HP
Sharpley P-5000 Decanter SS 100HP
Sharpley Centrifuge 12" SS solid bowl w/ skimmer (2)
Tolhurst Centrifuge 26" SS perf. basket

PILOT & LAB

1000 gal. 316 SS Reactor 80/50 psi half pipe
15,000 gal. 304 Elco, w/kt. vac. Reactor
Downington 1500 gal. Monel Cled Reactor
Wetzel 3000 & 750 gal. SS Reactor dimple
Pfaudler 500 gal. G/L Jkt. vac. Reactor
Pfaudler 9200 gal. G/L Reactor 80/80 psi
Unused

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Alpine Sieve Model #D-6/09A/12, 30 HP SS
Cumberland Grinder Size 14
Entolter Compact Mill, Type EIM, SS, 30HP
Fitzmill Model #D-6/09A/12, 30 HP SS
Greenco Colloid Mill, 3HP & 5HP
Micro Pulverizer 4 TH (3)
Rotoz Screener 2' x 4'
Stimpson Mueller 6" x 5" size 2 VO mixer
Sweco Separator 48"/30"/24"/18" SS

FEATURED ITEMS

Abbe 20 cu. ft. SS Conical Vac. Dryer
Aeromatic Fluid Bed Dryer Lab. MDL #ST-15
Aeromatic Fluid Bed Dryer SS MDL 100ST 20
Bowen Spray Dryers 7 1/2' & 5' SS
Fitzpatrick Fluid Bed Dryer SS Lab MDL #75
Gemco Dbl. Cone vac. Dryer 10 cu. ft. SS
Jeffery Fluid Bed Dryers 2' x 2' SS (2)
Patterson Kelly Twin Shell 163 cu. ft. vac. processor SS
Patterson Kelly Twin Shell vac. Dryer 75 cu. ft.
Patterson Kelly 5 cu. ft. SS Conical Vac. Dryer
Pfeudler Conical vac. Dryer G/L 72 cu. ft. compl. eye.
Standard Hershey 4' x 30' Rotary Dryer SS
Stokes 5' x 30' Rotary Vac. Dryer, Jkt. SS
Stokes Vac. Shelf Dryers 48.6 sq. ft. (7)
Strong Scott Rotary Vac. Dryer SS 3' x 12' Solids

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CHEMICAL PROFILE

SODIUM SULFATE

December 1, 1986

SUPPLY		CAPACITY*
PRODUCER		
BASF, Lowland, Tenn. (R)	.....	38
Avtex, Front Royal, Va. (R)	.....	85
Climax, Hobbs, N.M. (C)	.....	50
Climax, Grantsville, Utah (C)	.....	85
Courtaulds, Le Moyne, Ala. (R)	.....	50
Greet Salt Lake, Ogden, Utah (N)	.....	40
J.M. Huber, Etowah, Tenn. (P)	.....	30
Karr-McGee, Wealand, Calif. (N)	.....	235
Koppers, Petrolia, Pa. (K)	.....	33
Lithium Corporation, Bassemmer City, N.C. (L)	.....	36
Occidental, Cecilia Hayna, N.C. (S)	.....	120
Ozark-Mahoning, Brownfield, Tex. (N)	.....	70
Ozark-Mahoning, Seagraves, Tex. (N)	.....	155
Others**	.....	70
Total	.....	1,077

*Thousands of short tons per year of sodium sulfate or lower grade sulfate, 100 percent basis. N, natural; R, rayon; C, Cannon; S, sodium bicarbonate; R, resorcinol; L, lithium carbonate; P, silica pigment. Allied closed its 60,000-ton-per-year Beltsmore, Md., plant in mid-1985. BASF bought American Enka in December 1985. Climax's Grantsville plant currently produces under 10,000 tons per year of sodium sulfate; most capacity has been dedicated to potassium sulfate since late 1984. Courtaulds expanded its capacity from 25,000 tons per year in early 1986, upgrading production to higher purity sodium sulfate. Foote Mineral closed its 18,000-ton-per-year Bessemer City, N.C., plant in November, 1986. J.M. Huber plans to come on stream with a 10,000 to 15,000 tons per year silica pigment byproduct plant in Havre de Grace, Md. in early 1987. Occidental acquired Diamond-Shenrock's Chemicals in August, 1986. Ozark-Mahoning expanded its Seagraves facility from 108,000 tons per year in November, 1985.

**Seven companies with byproduct sodium sulfate capacities of less than 25,000 tons per year. Profile excludes spent caustic wash and low-grade recovered blends. Profile last published April 1, 1984; this revision December 1, 1986.

DEMAND
1985: 930,000 tons; 1986: 850,000 tons; 1990: 850,000 tons.

GROWTH
Historical (1976-1985): Minus 4.1 percent per year; future: 0 percent per year.

PRICE
Historical (1952-1986): High, \$114 per ton, sodium sulfate, bulk shipments, f.o.b. plant; low, \$17 per ton, salt cake, same basis. Current: \$55 per ton, salt cake, E, same basis; \$96 to \$114 per ton, sodium sulfate, same basis.

USES
Detergent industry, 45 percent; Kraft pulping, 25 percent; glass, 5 percent; exports, 15 percent; miscellaneous, 10 percent.

STRENGTH
Production of higher valued sodium sulfate is increasing as plants upgrade recovery processes. Increasing caustic soda prices may convince papermakers

Continued on Page 53

PLATFORM

Advanced Materials: The Entry Fee

The following remarks are excerpted from an address by Edward L. Hennessy, president and chief executive officer of Allied-Signal, Inc. before the annual meeting of the Council for Chemical Research in Chicago, Ill.

While advanced materials are where everybody wants to be right now, investing in these technologies poses big challenges. Developing or acquiring a materials business will cost you plenty — we've looked at composite businesses that were selling for 70 times earnings. And, suppose you can afford this kind of investment — where do you make it? Obviously, there are many materials and hundreds — if not thousands — of potential applications to evaluate.

You can't make your decision by looking at what's doing well in today's market — because most of the materials technologies have still not begun to realize their full business potential.

So what do you do? There aren't any easy answers. But we think the best approach is for companies to hedge their bets by doing development work in as many different high-potential materials technologies as they can. Our engineered materials sector has emerging businesses in super-strength fibers, amorphous metals and biotechnology — as well as development programs in composites, ceramics, advanced films and plastics, catalysts and membranes. This future-oriented effort is funded by a sector R&D budget that totals \$155 million — and it also receives extensive support from our \$50 million corporate technology program in composites, ceramics, polymers and other advanced materials. In addition, we're looking for some acquisitions that will increase our involvement in these materials areas.

Once you've committed yourself to various technologies, how do you maximize the chances of developing them into products you can commercialize? One thing you must do, of course, is build your new development programs on your company's traditional strengths whenever possible.

Another way to maximize the effectiveness of your development programs in materials is to make sure they get support from related technology activities throughout your company. At Allied-Signal our engineers materials people draw on the expertise of our aerospace and automotive people in developing materials for airplanes and cars.

Collaboration among different operations is important. But so is collaboration among your different technical disciplines. To design a new material, you need more

knowledge than can be found in anyone's field of specialization. You must have chemists who know what molecular changes are needed — physicists who can measure and understand bulk properties — and engineers who can figure out how to make new materials in a cost-effective way.

And success comes even faster when this intensified human effort is supported by powerful computer modeling techniques. Recently our large Norplex operation followed this route in designing a new polymer system for circuit board laminates.

A laminate based on the system that was selected will be ready for commercialization next year. Thanks to the computer, development of the new laminate is going to take just three years — which is unusually fast for such a product.

In working to develop advanced materials, we need to make the best use of computers and get the most out of all our latest technology resources. But we should also take advantage of outside research programs offered by universities, government and industry groups.

Sometimes the outside support needed to help us build a materials business is not research, but fully developed technology or marketing expertise. One way to get involved in a number of technologies in an area where you have a limited budget is by supplementing your internal development effort with less costly licensing or joint venture arrangements.

We have a licensing agreement with the Japanese firm Unilika that will make us the first US producer of biaxial nylon films for food packaging. And we will be forming a joint venture with Kanegafuchi of Japan to produce other high-performance films for flexible printed circuit boards.

Today I see signs that the chemicals industry is moving toward a major sea change, toward a time of accelerating innovation, increasing business development and rapidly growing sales and profits. I believe this will be a renewal based not on chemicals but on the advanced materials I've been discussing.

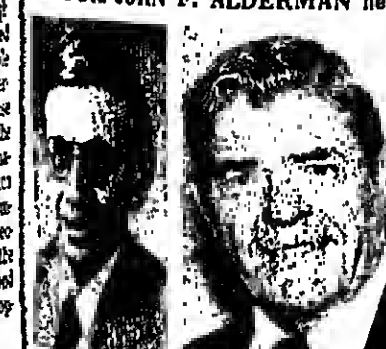
Our scientists have now learned enough about molecular properties — and collected enough of a data base — so that they are able to engineer advanced materials with the performance characteristics we want. The technical people are also well versed in the complex techniques used to process new materials — techniques like rapid solidification for amorphous metals, or pultrusion for composites. Finally, technical and business people alike have shown they can adjust to the industry's critical shift in emphasis toward high-efficiency manufacturing in development of customer-specific applications.



Dale R. Dill, who has been appointed senior vice-president of Akzo Chemicals America, Inc. to head the operations of Noury chemicals and also be responsible for metal carboxylates.

RICHARD J. KOCIBA has been named a research scientist in the mammalian and environmental toxicology research laboratory of Chemical Company's health and environmental sciences department. DAVID F. COBURN has been appointed Northeast district manager for the Dyes & Chemicals Division of Compton & Knowles Corporation. ROBERT W. HIRSCH has been named vice-president of sales at Chemfix Technologies Inc.

RONALD R. NELSON has been appointed sales representative in the Industrial Division of Merck & Co.'s Kelco unit. JAMES R. PETERS has been named executive director of the Polyurethane Foam Association. DR. JOHN F. ALDERMAN has



R. Hirsch

Ralston Purina Names Two in Polymer Division

Ralston Purina Company has appointed Dr. Dale R. Dill director of research and development in its Polymer Division and Thomas B. Merrifield manager of sales service and I&D.

Mr. Dill will be responsible for sales service, field technical service, application development and product quality in the Polymer Division.

Mr. Merrifield will be responsible for supervision of laboratory fulfillment of technical service requests and research projects using soy-based products for the paper coatings industry.



T. Merrifield

been appointed program manager for "Amical" and other biocides in the Chemical & Agricultural Products Division of Abbott Laboratories.

CHARLES W. MAXWELL has been named director of inorganic chemicals at Virginia Chemicals Inc., a unit of Celanese Corporation. GORDON V. RAMSEIER JR. has



R. Nelson

been appointed president and chief executive officer of Immunotech Pharmaceuticals. EDWARD INTERESS has been named manager of Arthur D. Little Inc.'s chemical and metallurgical engineering practice. DONALD W. TRACY has joined First Mississippi Corporation as manager of corporate loss



Frank B. Oberardino, who has been named vice-president of business development at Catalystica, producer of advanced catalytic technologies. He will direct the firm's commercialization programs.

control. JOHN J. FOSTER has been appointed Gulf Coast regional sales manager for Chemfix Technologies Inc.

GREGORY W. HUNT has been named senior sales representative for the Unocal Chemicals Division of Unocal Corporation. NANCY M. ELLIOTT has been appointed customer service manager for the division's Twinburg, Ohio, office, and MARK N. ORVICK has been named account manager in the St. Paul, Minn., office.

GERRY DZIEDZINA has been appointed account manager for optical fiber coatings at DeSoto Inc. DOUGLAS L. WHITE has been named director of proposals in Rus



J. Aldermen

Domtar Appoints Two In its Salt Division

Domtar Industries Inc. has named Lane Lighthart and Donald Jordan district sales managers for the West and East, respectively, in its "Sifto" Salt Division.

Mr. Lighthart joined the division in 1980 and was most recently territory supervisor, based in Dubuque, Iowa.

Mr. Jordan joined the division in 1974 and was previously territory supervisor, working out of the division's Cincinnati, Ohio, office.



L. Lighthart

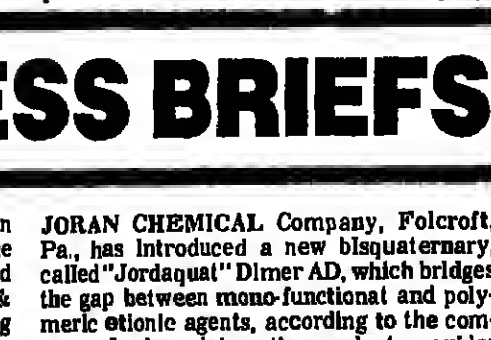
International Corporation's Birmingham, Ala., headquarters office. GARRY C. DUNN has been appointed president of Hercules Europe, succeeding Gordon L. Allyn, who is taking early retirement.

MALCOLM R. LLOYD has been named president of Alberto-Culver's International group. P. DOUGLAS MCALEY has been appointed corporate vice-president for US consumer products and RALPH SUTHERLAND has been named vice-president of the company's US Toilettes Division.



C. Maxwell

STANLEY P. DUDEK JR. has been named marketing manager for the inks, coatings and floor finishes industries at Allied-Signal Inc.'s "A-C" polyethylene business. WOLFGANG C. BERNDT has been elected a vice-president at Procter & Gamble Company.



G. Remaster

MEETINGS CALENDAR

December 1, 1986

THIS WEEK

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz-Carlton-Naples Hotel, Naples, Fla., December 2-6.

THIS MONTH

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

SALES ASSOCIATION OF THE CHEMICAL INDUSTRY, annual Christmas party, New York Hilton Hotel, New York, December 18; education committee, seminar, "The Psychology of Selling," Treadway Inn, Saddle Brook, N.J., December 18.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, 85th annual dinner, Windows on the World, New York, N.Y., December 11.

JANUARY

SOAP AND DETERGENT ASSOCIATION, 60th Annual Meeting and Industry Convention, Boca Raton Hotel and Club, Boca Raton, Fla., January 23-February 1, 1987.

LATER ON

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, center for chemical process safety, international conference on chemical safety issues, Omni Shoreham Hotel, Washington, D.C., February 3-5.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 12th annual Spring workshop and exhibition, Skyline Ottawa Hotel, Ottawa, Ontario, Canada, April 27-30.

CHEMICAL GROUP OF NATIONAL ASSOCIATION OF PURCHASING MANAGERS, mid-winter conference, "Purchasing — Opportunity in a Changing World," Baton Rouge Hilton Hotel, Baton Rouge, La., February 18-20.

CHEMICAL MARKETING RESEARCH ASSOCIATION, Houston Meeting: "The US Chemical Industry Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd mid-year meeting, Chicago Marriott Hotel, Chicago, Ill., April 28-29.

CHINACHEM '87, international exhibition on chemical and petrochemical industries, China International Exhibition Center, Beijing, China, April 3-9.

CHLORINE INSTITUTE, winter meeting, Mayflower Hotel, Washington, D.C., March 15-18.

ORIO, CHEMICAL & ALLIED TRADER ASSOCIATION, 61st annual dinner, Waldorf-Astoria Hotel, New York, March 18; Spring luncheon, Sheraton Centre Hotel, New York, N.Y., June 11.

FERTILIZER INSTITUTE, 1987 annual meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3.

FIRE RETARDANT CHEMICAL ASSOCIATION, international conference on flame retardancy and fire safety, Sheraton New Orleans Hotel, New Orleans, La., March 22-25.

INSTITUTE OF OAS TECHNOLOGY, 11th annual symposium, "The US Chemical Industry Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

INTER-SOCIETY COLOR COUNCIL, scientific conference, Williamsburg Lodge, Williamsburg, Va., February 8-11.

NATIONAL PETROLEUM REFINERS ASSOCIATION, 85th annual meeting, Convention Center, San Antonio, Tex., March 29-31; 12th international petrochemical conference, Convention Center, San Antonio, Tex., April 5-7.

POLYURETHANE MANUFACTURERS ASSOCIATION, Spring meeting, commercial development of recyclable systems, Fairmont Hotel, Dallas, Tex., April 25-28.

SOCIETY OF THE PLASTICS INDUSTRY, 42nd annual conference of the reinforced plastics and composites institute, Cincinnati Convention & Exhibition Center, Cincinnati, Ohio, February 2-6.

THE FERTILIZER INSTITUTE, 1987 Annual Meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3, 1987.

BUSINESS BRIEFS

TECH INC., Lansdale, Pa., says it has secured two US patents for what it describes as a "major breakthrough" in advanced pressure liquid filling systems technology. The patent covers a liquid filling system which covers an in-place steam sterilization technique that requires no disassembly of the filling system, according to

PERFORMANCE Products Inc., Spring meeting, commercial development of recyclable systems, Fairmont Hotel, Dallas, Tex., April 25-28.

APPLIED REPARATIONS INC., Bethlehem, Pa., has moved to a new headquarters site with larger laboratory facilities at the Ben Franklin Technology Center in Bethlehem. Applied Reparations says the move will enable the company to increase its technical capabilities and applications support.

BIOCOMMERCE ABSTRACTS, a new database, is available through Dialog Information Services Inc. of San Francisco, Calif. The database contains over 20,000 abstracts indexing more than 70,000 biotechnology business news reports since 1981. It is updated twice monthly with references from major newsletters, business magazines, trade journals and newspapers published worldwide.

CHURCH & DWIGHT Company, Princeton, N.J., has sold patents and technology related

to its oven cleaning business to American Home Products Corporation. Purchase price was not given, but the transaction is expected to add about 7 cents per share to Church & Dwight's third-quarter earnings. Following the sale, Church & Dwight discontinued its "Arm & Hammer" oven-cleaner products, which had been contributing about \$5 million in annual sales revenues. The discontinuance will have no significant impact on operating profits, the company said.

CIBA-GEIGY's electronic chemicals group has introduced a new line of high-purity epoxy resins, hardeners and auxiliary products for various applications in the electronics industry. The "Aratron" 5000 series consists of epoxy, epoxy phenol novolac and other multifunctional resins, as well as hardeners and diluents.

JORAN CHEMICAL Company, Folcroft, Pa., has introduced a new bisquaternary, called "Jordaqueal" Dimer AD, which bridges the gap between mono-functional and polymeric cationic agents, according to the company. Jordan claims the product provides superior results for formulators of conditioning shampoos and body products.

SMITHKLINE CORPORATION, health care concern based in Philadelphia, has placed its shares on the London Stock Exchange. SmithKline listed its shares on the Paris exchange last Spring and earlier this month its shares began trading on the Tokyo exchange. A spokesman for SmithKline notes that the company employs 1,700 in the UK, where it has sales in excess of \$100 million and operates large research and development centers in Welwyn and Tonbridge.

December 1, 1986

CHEMICAL MARKETING REPORTER

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CHEMICAL MARKETING REPORTER

December 1, 1986